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**Newspaper  
the Industry**

# Air Conditioning & REFRIGERATION

Production Tools for Victory



Technical Governmental

'Written To Be  
Read on Arrival'  
Issued Every Monday  
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Established 1926.

## side Dope

George F. Taubeneck

**Headache**  
**ant Waste**  
**r. Boeschstein**  
**ating Rinks**  
**ction Chaos**  
**of Food**  
**Trouble**  
**e Meek Back**  
**t Policy**  
**er Soldier Talks**

**Headache**  
paper rationing business just  
has us dizzy. We have to  
under strict quotas for each  
of the year. Under any  
tances it would be difficult to  
the NEWS on these reduced  
of paper; but today it's a  
e headache.

is a steadily rising backlog  
scribers who—unsolicited—  
their \$4.00 checks in payment  
scription. They are assigned  
y number and must wait  
urn (which comes when an  
scriber fails to renew). Some  
raise Cain when their order  
ait.

are also many advertisers—  
hem old friends we'd like to  
odate—who want to increase  
pace for some highly valid  
In addition, there are the  
ers, whom we can't seem to  
odate at all. Some of them  
asons for advertising which  
break your heart—such as  
which have no further war  
ts, and which will go out of  
s if they can't subcontract.

ite of all we can do to sit  
lid, we're currently running  
y quota, and are forced to  
l further paper-saving solu-  
publishing the NEWS. One  
will appear June 12. For-  
t, it will constitute a real  
ment in the NEWS reporting  
Watch for it.

## nt Waste

this leads up to a little yarn.  
ek, whilst worrying our heads  
this tight paper situation,  
an order from the District  
mbia for five of our dollar

purchase order consisted of  
es (all extra-length pages).  
hed 7½ oz. The manual  
weighs just 7 oz. Included  
questionnaire over which our  
guestioned for hours before  
it upstairs, which is how  
le thing finally came to our

District of Columbia will get  
our manuals; but they did  
aring letter which will prob-  
ite a raging fire.

## r. Boeschstein

Friday this story was told  
the Air Conditioning Council  
napolis. Afterward, a couple  
eers from Allison came up  
le grins and said:  
er, you haven't seen any-  
The paper work goes out of  
ts in trucks!"

stion to Harold Boesch-  
the WPB: How about put-  
government departments  
strictive paper quotas?

## ating Rinks

t rumor going the rounds in  
ton is that somebody may  
work out something about  
deering ice-skating rinks for  
on to cold storage ware-  
urposes.

executives who are said to  
g over this scheme point out  
skating rinks have both the  
ace and the refrigerating  
nt; and that they don't serve  
tial use at present.

ded on Page 22, Column 1)

## New Selective Service Rules Help Case of Repairmen

WASHINGTON, D. C.—Refrigeration repairmen over 26 years of age can now press their claims of deferment with assurance, if they are up for reclassification, and those who have been reclassified into 1-A can ask for a re-opening of their cases, under the new orders issued May 11 by Maj. Gen. Lewis B. Hershey, Selective Service Director.

In the memorandum of May 11 to Local Draft Boards it is made clear that the test for deferment for those over 26 will be whether or not a man is doing his duty on the home front, with somewhat stricter standards applied to registrants of 26, 27, 28, and 29 years of age than to those of 30 and over.

In the case of those under 30, a registrant must be "necessary to and regularly engaged in a war-supporting activity." The older registrants need only be "regularly engaged in" such work.

Local Draft Boards were ordered to reopen the cases of all men over 26 now classified as available for military service and to place in deferred categories those who qualify under the new rules.

The determination of what constitutes a war or war-supporting activity was left to the local boards, but they were told to apply the War Manpower Commission's list of 35 essential activities as a guide.

"The activities contained in this list," said the memorandum, "represent on a national basis the most important activities in war production (Class 2-B) and in support of the national health, safety or interest (Class 2-A). The list should be considered in occupational classification matters along with all other available information."

Refrigeration repairmen in ages 26 through 29 will have to prove not only that they are "regularly engaged" in such work, but that they are necessary to it. This means that they will have to present a strong case, with evidence from their competitors and from users that a shortage of manpower exists in the refrigeration repair field and that their services in this work are thus highly "necessary."

For those 30 years of age and over, it would seem that it only be necessary to show that a man is regularly engaged in such work, since "refrig-"  
(Concluded on Page 2, Column 1)

## New Drive Planned To Establish More Servicemen Schools

CLEVELAND—A new drive to establish Local Refrigeration Service Councils and Refrigeration Service Training Programs in areas where a need for such programs is evident, is being launched by W. R. Kromer, National Program Director for National Refrigeration Service Council.

Representatives of the Bureau of Training, War Manpower Commis-

Anyone in an area where no local training program has been established, and who thinks there is need for such a program in that area, should contact W. Ray Kromer, National Program Director, National Refrigeration Service Council, 1835 E. 24th St., Cleveland, Ohio.

sion, have been informed of the drive and are being asked to contact members of the refrigeration industry in such communities with a view to discussing plans for the organization of a council.

Mr. Kromer is also making plans  
(Concluded on Page 27, Column 4)

## Uprating In Progress On Commercial Parts

WASHINGTON, D. C., May 18—The Wholesale & Retail Trades Division of WPB is preparing to uprate to AA-1 repair parts for commercial and industrial refrigeration and air conditioning equipment, orders for which have been placed before Feb. 15 and are as yet undelivered, it was announced here today.

The program covers the following items:

Controls, pressure and thermostat capacitors and/or starting valves, solenoid valves, liquid line strainers, refrigerants, dehydrators, thermostatic and automatic expansion valves, compressor bodies, compressor repair parts, including, but not limited to pistons, rings, flapper and disc valves, crankshafts, seals, piston pins, high and low side float valves.

The program is limited to the items enumerated. It is necessary to have PD-547's filed or refilled for uprating.

Forms should clearly designate in Section 4 that the request for uprating is against special program. Refer to GIEQ program, determination No. 28 for case number and item number of PD-547 on which previous rating was received, or if for uprating of MRO ratings, list each MRO rating for which uprating is requested.

## Poisoned Food Sends Four to Hospital

NEW YORK CITY—Some 80 persons became ill, four seriously, in two recent outbreaks of food poisoning here, one of which occurred in a charitable institution and the other in a high school cafeteria.

After eating a "victory luncheon" of potato salad, frankfurters, and sauerkraut at the annex cafeteria of the Manhattan High School of Women's Garment Trades, many of 130 students became ill, and four were taken to Bellevue hospital with acute food poisoning.

Following "mild sickness" among 74 persons in the unnamed charitable institution, the municipal health department placed an embargo on 1,200 cases of canned evaporated milk, part of 13,000 cases of surplus milk being distributed by the War Food Administration.

## City Acts to Stop Sales Of Spoiled Meats

LA CROSSE, Wis.—Several cases of food poisoning and the finding of spoiled meat in three establishments here recently evoked an order by the La Crosse health officer, A. M. Murphy, calling for the closing one day a week of offending food shops and restaurants for cleaning purposes.

Meanwhile the city's ice dealers have warned the War Labor Board that unless they are permitted to increase icemen's wages, ice deliveries will probably be sharply curtailed, thus increasing the danger of food spoilage.

Much of the food poisoning that has occurred here in recent weeks has resulted from eating spoiled pork and beef, according to Mr. Murphy, who also cautioned restaurant operators and the public that chickens which have been insufficiently cooled following killing or  
(Concluded on Page 28, Column 4)

## Program for ASRE Pittsburgh Meeting June 5-7 Completed

PITTSBURGH—Combining scientific research and play, members of the American Society of Refrigerating Engineers will attend their 31st annual spring meeting at William Penn hotel here June 5-6-7 to hear several technical papers and participate in the annual golf tournament and other social events.

Large attendance is expected at this year's meeting, partly because A.S.R.E. membership has jumped from 2,200 to 2,900 since last September, and because the site of the meeting, Pittsburgh, was chosen for its central and convenient location to reduce travel.

Technical papers scheduled for the meeting cover a wide variety of subjects including plastics, the postwar domestic refrigerator, blast freezers, low temperature applications, altitude chamber controls, and other pertinent subjects.

In addition to the annual golf tournament to be held at the South Hills Country Club the afternoon of June 6, other entertainment will include a get-together party Sunday  
(Concluded on Page 27, Column 2)

## Frigidaire Posts To Kelley, Brennan

DAYTON—P. M. Bratten, general sales manager of Frigidaire division, General Motors Corp., announces the appointment of Harry M. Kelley to the position of appliance sales manager and the return of Paul H. Brennan to his former position of commercial sales manager.

Mr. Kelley has served in various important sales capacities in his 12 years at Frigidaire. He was district sales manager for four years before coming to the factory as a specialist in the public utility sales division. Later he became sales manager of special markets, which included farm, replacement, and multiple housing sales. In his new capacity as appliance sales manager, he has charge of all household appliance product sales.

Mr. Brennan has been associated with the Frigidaire commercial sales division for over 17 years. Joining the company as a commercial sales engineer, he was national users and apartment house representative for nine years in New York before coming to Dayton to take charge of Frigidaire's national users department. As manager of commercial sales, he has charge of all commercial refrigeration and air conditioning sales.

Until assuming their present positions, both Mr. Kelley and Mr. Brennan had important responsibilities in Frigidaire's war contracts division.

## 8 More Firms Selected To Produce Flatirons

WASHINGTON, D. C.—Eight additional manufacturers have been authorized by the War Production Board to produce 376,768 electric irons this year, making the total production scheduled thus far 769,338.

The latest firms and their production quotas follow: Cissell Mfg. Co., Louisville, Ky., 7,500; Knapp-Monarch Co., Dover, Ohio, 192,000; Metalware Corp., Two Rivers, Wis., 16,500; Reimers Electric Co., West New York, N. J., 2,100; Rutenber Electric Co., Marion, Ohio, 4,600; Verplex Co., Essex, Conn. (for Landers, Frary & Clark), 97,868; Waverly Tool Co., Sandusky, Ohio (for Titeflex, Inc.), 31,200; and Winsted Hardware Mfg. Co., Winsted, Conn., 25,000.

## New Forms Are In Effect For L-38 Ratings

Proper Uses of 3 Types  
Of Applications Are  
Given In Amendment

WASHINGTON, D. C.—The amendment May 10 to the Commercial Refrigeration Order L-38 has clarified the matter of the correct forms to be used in applying for ratings on or permission to install, commercial refrigeration equipment.

This is how the WPB form situation stacks up after the amendment:

Form WPB-617 is to be used if installation of a system is involved and the cost of the construction (exclusive of the cost of the prime mover, compressor (condensing unit), condenser, receiver, evaporative surface (lowside), controls, indirect cooling units, and cooling tower) is more than \$5,000.

Form WPB-2449 is to be used when the system or parts are required for use in any cold storage warehouse, industrial or commercial ice plant, frozen food locker plant, processing plant (except equipment having a capacity of 5 hp. or 5 tons (A.S.R.E. specifications) or less, industrial processing of products other than food, refrigeration equipment for stratospheric chambers, refrigerated railroad car, truck or ship, or any air conditioning installation of any size except evaporative coolers ("desert" coolers) of all sizes.

Form WPB-1319 is the correct form for all other uses, and is to be filed in accordance with the WPB-1319 instructions manual.

(Applications on Form WPB-2448 will continue to be accepted by WPB until May 25, 1944 only, although any  
(Concluded on Page 28, Column 1)

## Some 'Desert Coolers' Will Be Produced

WASHINGTON, D. C.—A limited number of evaporative coolers ("desert coolers") will be produced for use of some civilians in the arid regions of the western part of the country, according to Direction 1 to Limitation Order L-38 issued Thursday, May 18.

Manufacturers who wish to produce such coolers may do so only upon special authorization from WPB, and they must make application with the District Office of WPB on or before May 29.

Deliveries of the "desert coolers" authorized by WPB will be made only after approval of an application made on Form WPB-1319. Deliveries will  
(Concluded on Page 23, Column 2)

## Ashbaugh, Three Others New Vice Presidents Of Westinghouse

EAST PITTSBURGH, Pa.—John H. Ashbaugh, manager of the Westinghouse Electric Appliance Division in Mansfield, Ohio, is one of the four new vice presidents recently elected by Westinghouse Electric & Mfg. Co.

The other new vice presidents are R. A. Neal, manager of the Switchgear Division at East Pittsburgh; J. K. H. Bare, manager of the company's central district sales activities; and H. H. Rogge, manager of the company's Washington government office.

Mr. Neal becomes vice president  
(Concluded on Page 28, Column 3)

## New Selective Service Rules Seem To Make Repairmen Clearly Deferrable

(Continued from Page 1, Column 2)  
eration repairman" is on the list of essential activities. However, it probably would not be amiss to present as strong a case as possible.

General Hershey declared that "the substantial number of men under 26" available for service, plus additional older men who failed to qualify for occupational deferment under the new rules or who were volunteers or delinquents, together with those who left agriculture with permission of their local boards, should be sufficient to meet the armed forces' needs for the next six months.

Text of the Memorandum follows:

### Text of the May 10 Draft Memorandum

#### DRAFT MEMORANDUM

##### PART I General Policies

1. **Objectives of the Selective Service System**—The primary objective of the selective service system is to select and forward for induction the number and type of men required to bring the armed forces to their authorized strength and to provide the armed forces with necessary replacements. The secondary objective of the selective service system is to accomplish this result in such a manner as to interfere as little as possible with activities in war production or in support of the national health, safety, or interest.

2. **The Effect of the Requirements of the Armed Forces on Classification Policies**—The number of men required to bring the armed forces to their required strength is now relatively small. The

number of men who will be required by the armed forces as replacements will, to a large extent, depend upon the fortunes of war. The policy of the selective service system, therefore, cannot be rigid, but must be subject to adjustment as the needs of the armed forces change.

The armed forces have indicated that their greatest immediate need is for physically fit men in the younger age groups, capable of the highest degree of efficiency under combat conditions. Accordingly, occupational deferment policies have been adopted which should release large numbers of younger physically fit men for military service and, at the same time, provide for the deferment of greater numbers of men to engage in activities in war production or in support of the national health, safety, or interest who are in the older age groups or are in the younger age groups but are either physically disqualified for any military service or qualified for limited military service only.

Under these policies, the prospect for registrants ages 18 through 25 is service in the armed forces unless they meet the specific conditions for deferment which have been established by the Director of Selective Service. The prospect for registrants ages 26 through 29 who are found to be "necessary to and regularly engaged in" activities in war production or in support of the national health, safety, or interest is that they will remain in civilian life for the time being, subject to adjustment as the needs of the armed forces change.

The prospect for registrants ages 30 through 37, regardless of their physical condition, and for registrants of any age who are either disqualified for general military service or qualified for limited military service only, and who are "regularly engaged in" and who remain in activities in war production or in support of the national health, safety, or interest is that they will remain in civilian life for an indefinite period, subject to adjustment as the needs of the armed forces change.

#### PART II

##### Registrants Ages 18 Through 25

1. **General Rule**—No registrant age 18 through 25 may be retained or placed in Class 2-A or Class 2-B except under the circumstances described in Paragraphs 2 and 3 of this part of this memorandum.

2. **Deferment Restriction**—No registrant age 18 through 25 (except a registrant described in Paragraph 3 of this part) may be retained or placed in Class 2-A or Class 2-B unless:

(a) The local board finds that he is "necessary to and regularly engaged in" an activity in war production or in support of the national health, safety, or interest; and

(b) There is filed with the local board either:

(1) A Form 42-A Special upon which the State Director of Selective Service in whose state such registrant's principal place of employment is located has endorsed a recommendation that the local board except the registrant from the general rule prohibiting occupational deferment of registrants ages 18 through 25 (the DSS Form 42-A Special will be completed in an original, first copy, and second copy and presented by the employer to the State Director in whose state is located the registrant's principal place of employment or

(2) A Form 42 Special which the local board finds brings the registrant within one of the exceptions described by the Director of Selective Service. (All requests for new or additional occupational deferments for registrants under this subparagraph will be made on affidavit—Occupational classification, Form 42 Special. DSS Form 42 Special will be filed directly in an original and first copy with the local board of the registrant concerned. The DSS Form 42 Special will not be submitted to the State Director.)

3. **Deferment of Registrants Disqualified for Military Service or Qualified for Limited Military Service Only**—A registrant age 18 through 25 found to be disqualified for any military service or found to be qualified for limited military service only may be retained or placed in Class II-A if he is "regularly engaged in" an activity in support of the national health, safety, or interest, or in Class II-B if he is "regularly engaged in" an activity in war production.

4. **Reopening and Classification Anew**—The classification of a registrant age 18 through 25 who is in a class available

for service shall be reopened and he shall be classified anew if at any time before his induction the local board receives a Form 42 Special or a Form 42-A Special executed in the manner required by this memorandum.

5. **Local Board Report**—In order to provide the Director of Selective Service with accurate and up-to-date information concerning the number of registrants ages 18 through 25 occupationally deferred under the provisions of Paragraph 2 of this part, the local board will report as follows:

(A) If such registrant is placed in Class II-A or Class II-B by the local board, it shall complete the report to the Director of Selective Service on the back of the first copy of DSS Form 42 Special or DSS Form 42-A Special and attach such first copy to the local board action report (Form 110) for the local board meeting at which such classification is made and transmit both documents to the Director of Selective Service, Gimbel Building, Philadelphia, Pa.

(B) If such registrant is placed in Class II-A or Class II-B by the Board of Appeal or the President, the local board will complete the report to the Director of Selective Service in the same manner as if it had made the classification itself and shall attach such report to the local board action report (Form 110) for the local board meeting at which the classification is by the Board of Appeal or the President is recorded in its records and will transmit both documents to the Director of Selective Service, Gimbel Building, Philadelphia, Pa.

#### PART III

##### Registrants Ages 26 Through 29

1. **General Rule**—A registrant age 26 through 29 may be retained or placed in Class II-A or Class II-B under the circumstances described in Paragraphs 2 or 3 of this part of this memorandum.

2. **Men "Necessary to and Regularly Engaged in" an Activity in War Production or in Support of the National Health, Safety, or Interest**—A registrant age 26 through 29 may be retained or placed in Class II-A if he is found to be "necessary to and regularly engaged in" an activity in support of the national health, safety, or interest, or in Class II-B if he is found to be "necessary to and regularly engaged in" an activity in war production.

3. **Registrant Disqualified for Military Service or Qualified for Limited Military Service Only**—A registrant age 26 through 29 found to be disqualified for any military service or found to be qualified for limited military service only may be retained or placed in Class II-A, if he is "regularly engaged in" an activity in support of the national health, safety, or interest, or in Class II-B if he is "regularly engaged in" an activity in war production.

4. **Review and Reclassification Anew**—The classification of a registrant age 26 through 29 who is in a class available for service shall be reviewed and if the local board determines that, under the provisions of this part, he may be qualified for classification in either Class II-A or Class II-B, it shall reopen his classification and classify him anew.

5. **Consideration of Fathers**—Fathers ages 26 through 29, if other factors are equal, will normally be accorded occupational deferment in preference to non-fathers in this age group.

#### PART IV

##### Registrants Ages 30 Through 37

1. **General Rule**—A registrant age 30 through 37 (whether or not he has been found disqualified for any military service or qualified for limited military service only) shall be retained or placed in Class II-A if he is "regularly engaged in" an activity in support of the national health, safety or interest; or in Class II-B if he is "regularly engaged in" an activity in war production.

2. **Review and Classification Anew**—As a result of previous policies based upon manpower requirements of the armed forces, a substantial number of registrants ages 30 through 37 have been placed in Class I-A, Class I-A-O, or Class IV-E who will now qualify for deferment in Class II-A or Class II-B under the provisions of this memorandum.

In order to eliminate avoidable uncertainty on the part of registrants and employers, the classification of every registrant age 30 through 37 who is in a class available for service shall be reviewed and if the local board determines that he is "regularly engaged in" an activity in war production or in support of the national health, safety or interest, it shall reopen his classification and classify him anew. (Forms 42-B may be used for making requests for the occupational deferment of registrants in this age group.)

#### PART VI

##### Special Policies and Procedures

1. **Determination of the Status of a Registrant With Respect to an Activity in War production or in Support of the National Health, Safety or Interest**—It is the function of the local board except as otherwise provided in Part II of this memorandum, to determine the status of a registrant with respect to an activity in war production or in support of the national health, safety or interest. The information contained in the list of essential activities prepared by the War Manpower Commission and attached to this memorandum is used by the United States Employment Service in connection with the recruitment, transfer and placement of workers.

The activities contained in this list represent on a national basis the most important activities in war production and in support of the national health, safety or interest. The list of essential activities should be used by the agencies of the Selective Service System as a guide and should be considered in occupational classification matters along with all other available information. Under present circumstances, local boards are warranted in determining that registrants engaged in many activities not contained on this list are engaged in activities in support of the national health, safety or interest and it is the responsibility of the local board to make this determination.

For the guidance of the local board, consideration for occupational deferment may be given on a local basis to registrants engaged in activities which are related to utilities, food, clothing, fuel, housing, health, safety and other services or endeavors required for the preservation and effectiveness of the life of a nation at war.

2. **All Available Information to Be Considered**—In determining whether a registrant should be classified in Class II-A or Class II-B, all available information from national, regional, State and local levels will be used. No one source of information is conclusive. All information presented must be considered and evaluated properly. The agencies of the selective service system may use the facilities of the United States Employment Service for information with respect to the occupation of registrants. Local employment offices, on request, will provide local boards with information as to whether there exists or is likely to exist in the near future a national or local shortage of persons with the registrant's claimed qualifications.

# Superior QUALITY FITTINGS

... designed especially for use in refrigerating systems where they must withstand wide fluctuations in temperature, plus considerable vibration. Machined from brass forgings and relief-annealed extruded brass rod to assure uniform density—maximum strength—freedom from season cracking—total absence of seepage leaks.

All threads machined to medium fit (SAE Class 3). Flare threads and faces protected by cardboard ferrules.

SUPERIOR QUALITY FITTINGS are recommended for, and used extensively by refrigeration, machine tool, marine, refining, liquefied petroleum gas, and many other industries.

SUPERIOR FITTINGS SPECIFICATIONS

Standards of the Refrigeration Valve and Fittings Association and the Society of Automotive Engineers

SAE Fitting Size	Thread	Pressure (PSI)	Temp. (°F)	Material
1/8"	1/8-28	150	250	Brass
1/4"	1/4-20	250	350	Brass
3/8"	3/8-16	350	450	Brass
1/2"	1/2-12	450	550	Brass
3/4"	3/4-8	550	650	Brass
1"	1-6	650	750	Brass
1 1/4"	1 1/4-4	750	850	Brass
2"	2-4	850	950	Brass
2 1/2"	2 1/2-3	950	1050	Brass
3"	3-2	1050	1150	Brass
3 1/2"	3 1/2-2	1150	1250	Brass
4"	4-2	1250	1350	Brass
4 1/2"	4 1/2-2	1350	1450	Brass
5"	5-2	1450	1550	Brass
5 1/2"	5 1/2-2	1550	1650	Brass
6"	6-2	1650	1750	Brass
6 1/2"	6 1/2-2	1750	1850	Brass
7"	7-2	1850	1950	Brass
7 1/2"	7 1/2-2	1950	2050	Brass
8"	8-2	2050	2150	Brass
8 1/2"	8 1/2-2	2150	2250	Brass
9"	9-2	2250	2350	Brass
9 1/2"	9 1/2-2	2350	2450	Brass
10"	10-2	2450	2550	Brass
10 1/2"	10 1/2-2	2550	2650	Brass
11"	11-2	2650	2750	Brass
11 1/2"	11 1/2-2	2750	2850	Brass
12"	12-2	2850	2950	Brass
12 1/2"	12 1/2-2	2950	3050	Brass
13"	13-2	3050	3150	Brass
13 1/2"	13 1/2-2	3150	3250	Brass
14"	14-2	3250	3350	Brass
14 1/2"	14 1/2-2	3350	3450	Brass
15"	15-2	3450	3550	Brass
15 1/2"	15 1/2-2	3550	3650	Brass
16"	16-2	3650	3750	Brass
16 1/2"	16 1/2-2	3750	3850	Brass
17"	17-2	3850	3950	Brass
17 1/2"	17 1/2-2	3950	4050	Brass
18"	18-2	4050	4150	Brass
18 1/2"	18 1/2-2	4150	4250	Brass
19"	19-2	4250	4350	Brass
19 1/2"	19 1/2-2	4350	4450	Brass
20"	20-2	4450	4550	Brass
20 1/2"	20 1/2-2	4550	4650	Brass
21"	21-2	4650	4750	Brass
21 1/2"	21 1/2-2	4750	4850	Brass
22"	22-2	4850	4950	Brass
22 1/2"	22 1/2-2	4950	5050	Brass
23"	23-2	5050	5150	Brass
23 1/2"	23 1/2-2	5150	5250	Brass
24"	24-2	5250	5350	Brass
24 1/2"	24 1/2-2	5350	5450	Brass
25"	25-2	5450	5550	Brass
25 1/2"	25 1/2-2	5550	5650	Brass
26"	26-2	5650	5750	Brass
26 1/2"	26 1/2-2	5750	5850	Brass
27"	27-2	5850	5950	Brass
27 1/2"	27 1/2-2	5950	6050	Brass
28"	28-2	6050	6150	Brass
28 1/2"	28 1/2-2	6150	6250	Brass
29"	29-2	6250	6350	Brass
29 1/2"	29 1/2-2	6350	6450	Brass
30"	30-2	6450	6550	Brass
30 1/2"	30 1/2-2	6550	6650	Brass
31"	31-2	6650	6750	Brass
31 1/2"	31 1/2-2	6750	6850	Brass
32"	32-2	6850	6950	Brass
32 1/2"	32 1/2-2	6950	7050	Brass
33"	33-2	7050	7150	Brass
33 1/2"	33 1/2-2	7150	7250	Brass
34"	34-2	7250	7350	Brass
34 1/2"	34 1/2-2	7350	7450	Brass
35"	35-2	7450	7550	Brass
35 1/2"	35 1/2-2	7550	7650	Brass
36"	36-2	7650	7750	Brass
36 1/2"	36 1/2-2	7750	7850	Brass
37"	37-2	7850	7950	Brass
37 1/2"	37 1/2-2	7950	8050	Brass
38"	38-2	8050	8150	Brass
38 1/2"	38 1/2-2	8150	8250	Brass
39"	39-2	8250	8350	Brass
39 1/2"	39 1/2-2	8350	8450	Brass
40"	40-2	8450	8550	Brass
40 1/2"	40 1/2-2	8550	8650	Brass
41"	41-2	8650	8750	Brass
41 1/2"	41 1/2-2	8750	8850	Brass
42"	42-2	8850	8950	Brass
42 1/2"	42 1/2-2	8950	9050	Brass
43"	43-2	9050	9150	Brass
43 1/2"	43 1/2-2	9150	9250	Brass
44"	44-2	9250	9350	Brass
44 1/2"	44 1/2-2	9350	9450	Brass
45"	45-2	9450	9550	Brass
45 1/2"	45 1/2-2	9550	9650	Brass
46"	46-2	9650	9750	Brass
46 1/2"	46 1/2-2	9750	9850	Brass
47"	47-2	9850	9950	Brass
47 1/2"	47 1/2-2	9950	10050	Brass
48"	48-2	10050	10150	Brass
48 1/2"	48 1/2-2	10150	10250	Brass
49"	49-2	10250	10350	Brass
49 1/2"	49 1/2-2	10350	10450	Brass
50"	50-2	10450	10550	Brass
50 1/2"	50 1/2-2	10550	10650	Brass
51"	51-2	10650	10750	Brass
51 1/2"	51 1/2-2	10750	10850	Brass
52"	52-2	10850	10950	Brass
52 1/2"	52 1/2-2	10950	11050	Brass
53"	53-2	11050	11150	Brass
53 1/2"	53 1/2-2	11150	11250	Brass
54"	54-2	11250	11350	Brass
54 1/2"	54 1/2-2	11350	11450	Brass
55"	55-2	11450	11550	Brass
55 1/2"	55 1/2-2	11550	11650	Brass
56"	56-2	11650	11750	Brass
56 1/2"	56 1/2-2	11750	11850	Brass
57"	57-2	11850	11950	Brass
57 1/2"	57 1/2-2	11950	12050	Brass
58"	58-2	12050	12150	Brass
58 1/2"	58 1/2-2	12150	12250	Brass
59"	59-2	12250	12350	Brass
59 1/2"	59 1/2-2	12350	12450	Brass
60"	60-2	12450	12550	Brass
60 1/2"	60 1/2-2	12550	12650	Brass
61"	61-2	12650	12750	Brass
61 1/2"	61 1/2-2	12750	12850	Brass
62"	62-2	12850	12950	Brass
62 1/2"	62 1/2-2	12950	13050	Brass
63"	63-2	13050	13150	Brass
63 1/2"	63 1/2-2	13150	13250	Brass
64"	64-2	13250	13350	Brass
64 1/2"	64 1/2-2	13350	13450	Brass
65"	65-2	13450	13550	Brass
65 1/2"	65 1/2			

## NATIONAL REFRIGERATION SUPPLY JOBBERS ASSOCIATION

## AWARD

To the Manufacturer Whose Policies, Product and Promotion  
Are Considered Most Outstanding



DETROIT LUBRICATOR COMPANY  
1943

*To the National Refrigeration Supply Jobbers Association:*

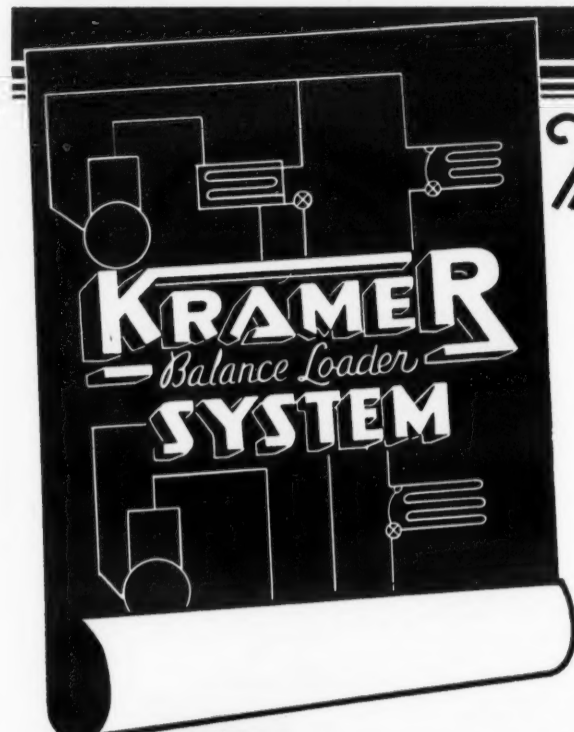
*The management and employees of Detroit Lubricator Company gratefully thank you for this award and wish to express appreciation to all those whose cooperation has made it possible. This cup shall be a symbol—a constant reminder of the past—an ever present incentive for the future.*

*C. H. Hodges Jr.*  
President

**DETROIT LUBRICATOR COMPANY**

General Offices: DETROIT 8, MICHIGAN • Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

Canadian Representatives: RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG



## The Greatest Achievement

IN REFRIGERATION CONTROL SINCE THE INTRODUCTION OF THE THERMOSTATIC EXPANSION VALVE.

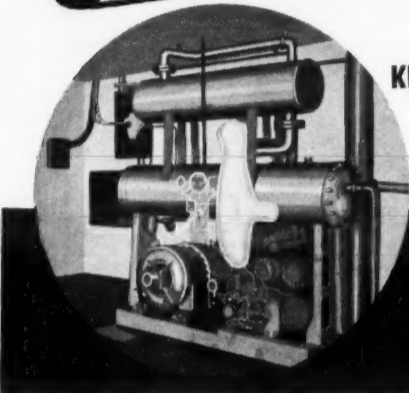
**T**HE KRAMER Balance Loader SYSTEM (Patented) is a modulating refrigeration system capable of varying from 0% to 100% of full load, and maintaining a fixed minimum back pressure in the suction line and in the compressor crank case.

The KRAMER SYSTEM will automatically compensate for varying evaporator loads, resulting in an infinite number of compressor capacity points, giving straight line capacity modulation.

The KRAMER SYSTEM is the only one that will give a full range of modulation at a fixed minimum back pressure throughout the entire low side.

The KRAMER SYSTEM can be applied to new or existing refrigeration installations. Send for Catalog BL-342.

A Typical KRAMER SYSTEM Installation



**KRAMER TRENTON CO., TRENTON, N. J.**  
*Heat Transfer Products*

BLAST COOLING COILS • BLAST HEATING COILS • AIR CONDITIONING UNITS • COMFORT COOLERS  
UNIT HEATERS • COPPER CONVECTORS • FINNED COILS • BARE TUBE COILS • PLATE COILS  
CONDENSERS • HEAT INTERCHANGERS • WATER COOLING EVAPORATORS • ICE MAKERS  
UNIT COOLERS: Coolmaster • Panel Type • Floor Type • Freezing Oven • Freezing Shower  
COMBUSTION ENGINE RADIATORS • OIL COOLERS.

## How 3 Household Manufacturers Have Prepared Dealers to Meet Critical Servicing This Summer

Leading manufacturers of household electric refrigerators are making intensified, individual efforts to maintain the operation of equipment in the field which bears their name. Most of these companies are in the third year of a special campaign directed at having their dealers do the best possible servicing job.

These programs provide new tools, new methods to suit the special conditions which now exist, and educational campaigns to get users to employ preventive maintenance.

On this and the succeeding page are carried reports of the 1944 service programs of Frigidaire, General Electric, and Kelvinator. The story on the Westinghouse program was published in the March 29 issue.

## G-E Explains New Hermetic Replacement Plan at Series of Training Meetings

BRIDGEPORT, Conn.—A new series of in-the-field training meetings for all General Electric servicing dealers and their personnel was held this spring from coast-to-coast under the direction of W. C. Noll, manager of Appliance Product Service of General Electric Co.

The meetings feature service and repair of all G-E appliances. With respect to refrigerators, the high spots of the new series of meetings was the introduction of a sealed refrigeration unit known as the FEA—to be used as a replacement unit for many models in the "Monitor Top" line of refrigerators—and a new service manual on G-E refrigerators with Scotch Yoke machines.

One part of the program was devoted to the second edition of the "T" plan, General Electric's home study course for service people, and educational movies, both sound and slide.

Another part of the program was devoted to a firsthand presentation of national advertising designed to retain and build goodwill for General Electric products and retailers of those products.

The new FEA replacement machines are sealed units and can be used to replace the following 5/60 cycle machines: D-2, DR-2, DRB-3, D-30, D-31, DRB-31, CA-2, CK-2, and CK-30.

The machine consists of a completely sealed motor and compressor unit, externally spring mounted, a

finned tube condenser with a small motor driven fan to provide circulation, and a capillary tube for controlling refrigerant flow into the blue porcelain enamel on steel evaporator.

Housing is rectangular in shape and painted white. It is constructed of metal and grilles in the sides provide ventilation.

The compressor and motor are sealed inside a welded cylindrical case. The 1/2-hp. motor is essentially the same as that used in Scotch-Yoke machines. A single cylinder reciprocating type compressor is mounted in one end of the case. "Freon-12" is the refrigerant used.

The FEA-2A evaporator has no freezing shelf, but will accommodate four large ice trays. As with the DR-machines, to obtain proper freezing of the top two trays they should be interchanged with the bottom trays as soon as the bottom ones are frozen.

Capacity of the FEA machine is claimed to be greater than that of any previous 1/2-hp. models. Operating time is claimed to be reduced, and hence the replacement units are said to have longer life.

When replacing a DR machine, the FEA is said to offer not only the advantage of holding lower cabinet temperatures, but a wider range of temperatures is available to the user and a "defrost" position on the control permits defrosting while still maintaining refrigeration. DR controls had no defrost setting.

## Frigidaire Concentrates on Finding and Training of New Service Employees

DAYTON—Frigidaire's 1944 "War-time Plan For Maintaining Service" has gone far beyond the 1943 plan which was considered quite successful, declares P. V. Sprout, Frigidaire service manager.

In the latter part of 1943 the company devised a plan that helped dealers to keep refrigeration service men at their work during the winter season, and to find and train new men to meet the peak demand of the next summer season.

Mr. Sprout outlines as follows two special features of the 1944 plan as described in the 28-page booklet "A Wartime Plan For Maintaining Frigidaire Service," which has been given widespread distribution:

"First is a 10-page 'sales album' section incorporated in the plan book itself, which is used by our dealers when seeking to interest new men in becoming service employees. Strong headlines, simple text, and interesting illustrations are combined to show prospective new service men the general advantages of refrigeration work—both now and after the war—and the particular advantages of going into this work with a Frigidaire dealer. Reports from the field indicate that this 'sales section' is proving an invaluable aid in securing new men.

"Another feature of our plan, is our new 'Primary Service Training Course.' It is scientifically planned to give new men a valuable insight into the fundamentals of refrigeration service, as well as to give men

even of considerable experience helpful 'refresher' instruction in their work. It is clearly written, well illustrated—and, thorough as it is, all 24 lessons may be completed in three months or less.

"The course may even be taken by a service applicant while still employed elsewhere. That is a big advantage, not only for the applicant himself, but also for the dealer, who has a chance to determine an applicant's aptitude before finally hiring him. After taking this course, the men are better prepared than otherwise to progress rapidly in regular training classes and from actual service experience."

Another instruction help for new men, and one which has been found especially effective, is a set of nine training films showing actual service operations and covering all major products and problems.

Field schools, both day and night, are also conducted, with instruction by experienced factory and district personnel. These range from two-day refresher courses for experienced men to two-week, full-time schools for new men.

Other Frigidaire training aids include three handy pocket-size reference guides; and two service manuals containing a total of 1,500 pages and 2,500 illustrations, and covering all the company's products.

Frigidaire's "War-time Plan" is not concerned exclusively with securing and training new men. In fact

(Concluded on Page 5, Column 1)

THESE ARE THE CUSTOMERS WHO WANT TO SEE INTO YOUR CASES!

Glaze them with

**Thermopane** with the BOMDERMETIC SEAL

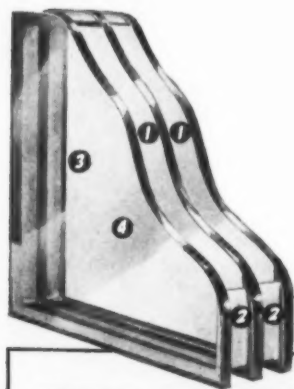
THE INSULATING GLASS FOR CLEAR VISION!

No one likes to buy goods "sight unseen". That's why progressive case manufacturers are turning to THERMOPANE—the insulating glass that assures quicker, easier selling. THERMOPANE, installed like ordinary glass, eliminates (1) Frequent and costly service calls due to fogged glass, (2) High manufacturing costs, (3) Smudged and dirty inner glass surfaces that cut down visibility. Plan your cases with THERMOPANE for clear vision. Libbey-Owens-Ford Glass Company, 6054 Nicholas Bldg., Toledo 3, Ohio.

## 4 IMPORTANT THERMOPANE FEATURES

- 1 INSULATING AIR SPACE.** The air inside the Thermopane unit is scientifically cleaned, dried and hermetically sealed. This layer of air gives Thermopane its high insulating efficiency.
- 2 BOMDERMETIC SEAL.** This patented metal-to-glass seal permanently bonds the two or more panes of glass into a single unit. Amazingly strong, it seals the insulating layer of air against dirt and moisture.
- 3 NO FOGGING UP.** Because of the patented Bomdermetic Seal and the insulation afforded by the sealed-in air space, frosting up and condensation are eliminated on the inner surfaces.
- 4 ONLY TWO SURFACES TO CLEAN.** The inner surfaces of Thermopane are specially cleaned at the factory—and always stay clean.

Copyright 1944, Libbey-Owens-Ford Glass Co.



**LIBBEY • OWENS • FORD**  
*a Great Name in GLASS*

WHEREVER VISION IS IMPORTANT USE L.O.F. Polished Plate GLASS



Trade Marks Registered

## Kelvinator Supplements Repair Schools With Campaign to Enlist Users' Help

DETROIT—Special aids to dealers and appliance owners plus a national advertising campaign to remind the public of dealers' determination to keep owners "in refrigeration and cooking facilities" for the duration, mark Kelvinator's approach to the difficult service problem expected in this third summer of the war.

Continuing the program inaugurated last year, Kelvinator distributors and zone men are conducting service training courses and service clinics throughout the country to train new service men and bring experienced service men up to date.

### NATIONAL DRIVE UNDERWAY

Color advertisements in leading national magazines are scheduled for May, June, and July, to acquaint appliance owners with the No. 1 trouble maker behind summer service calls—blown fuses usually resulting from dirty condensers on open type

refrigeration units and the need of oil on the motor. Owners are urged to clean condensers and oil motors regularly to prevent many service calls.

This campaign will include four-color insertions in the "Saturday Evening Post," "McCall's," "Good Housekeeping," "Better Homes and Gardens," "American Home," "Household Magazine," and "True Story."

### PLAN BOOK FOR DEALERS

Program to help dealers is outlined in the new plan book, "Keeping Friends Through Wartime Service," which has been mailed to dealers. Pointing out that "1944 is a critical year in appliance service," the booklet offers dealers many suggestions of ways to meet their service problems.

Three major things dealers can do to improve the service situation, according to the planning book, are

"(1) use proved methods of securing and training new service men, (2) build up your stock of parts, and (3) obtain the friendly cooperation of customers when delays are unavoidable."

Dealers are advised to list their manpower requirements with local draft boards, War Manpower Commission, the United States Employment Service, and with employment managers of companies who have war contracts, which might be reduced.

A series of suggested want ads and radio spot announcements offering jobs as service men is also contained in the booklet.

### TRAINING NEW MEN

New men so obtained should be trained in the courses being conducted by Kelvinator distributors and utilities, according to the booklet. For these courses Kelvinator has prepared three books, a slide film covering the fundamentals of refrigeration, and special manuals and bulletins on the various Kelvinator products.

One of the books is a "Simplified Training Course," a 236-page volume

giving the fundamentals of servicing any make of electric refrigerator. A "Trouble Shooter's Guide" has a ready reference on the cause and correction of common refrigerator complaints. Third book is the "Instructor's Manual," specially prepared for distributors and dealers for training groups of men.

The training course itself has two phases. Refrigeration theory and practical service information are given new men and experienced repairmen in classroom lectures and demonstrations, and in the "service clinics" experts use an actual refrigerator to explain servicing methods.

To maintain an adequate supply of repair parts, the second major suggestion for dealers in Kelvinator's service program, dealers are urged to order parts as early as possible, make minor repairs in their own shops instead of using a new part, and to return to the factory inoperative parts that are repairable.

For the third major suggestion, enlisting the cooperation of appliance owners, Kelvinator has prepared several dealer aids. So that dealers may tie-in with the national advertising campaign on "Better Care Means

Less Repair," Kelvinator offers them store and window posters and mats for local newspaper advertisements. In addition, Kelvinator has prepared a series of eight sample radio spot announcements on this theme.

Dealers are also encouraged to send their customers the "User's Guide" for electric refrigerators and ranges, which Kelvinator has prepared. Each of these guides graphically lists 10 simple things the user can do to give the appliance the care it needs to keep it operating efficiently.

### NOW TO USE BOOKLETS

Kelvinator suggests that service men leave a copy of these booklets on every service call, as well as mailing copies to all their users. A copy should also be mailed when a dealer is unable to handle a service call immediately. The booklet might help the customer fix the unit without other assistance, but at least it would help keep the customer satisfied, Kelvinator believes.

Further assistance to dealers is contained in a folder outlining suggested telephone conversations when a customer phones in a complaint.

## Frigidaire Plan Spreads Work Over the Year

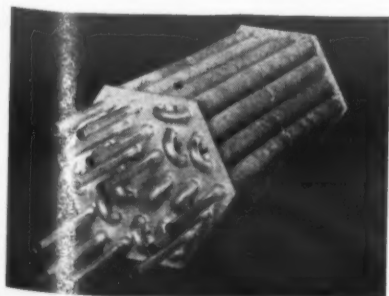
(Concluded from Page 4, Column 5) primary emphasis is placed on retaining experienced service men on the job, and on increasing their efficiency. For this purpose, refresher schools, training films, and a "post-graduate" correspondence course are also provided as means of increasing the efficiency of the "old hands," the present experienced service men, and making their time and energy go further.

To help its dealers lower the summertime peak demand upon the service force and hold their present service men by providing the maximum work hours during the winter season, Frigidaire has developed a special "Wartime Service Plan." Combinations of preventive services, for both household and commercial users, are offered at attractive prices in the winter as a means of spreading service work more evenly over the year and assuring service men higher earnings in the off season when they might be attracted by other jobs.

"The Wartime Service Plan" is not offered as a way to develop more service volume, but simply to apportion the existing volume more evenly throughout the year. As a matter of fact, since preventive service can help to decrease the total volume of service work: little troubles are caught before they have a chance to become big ones.

Still another aspect of Frigidaire's wartime service program is its greatly expanded facilities for repairing and rebuilding used parts, manufacturing new replacement parts, and distributing through its service organization the thousands of different parts required to keep in efficient operation the hundreds of various models of Frigidaire equipment manufactured during the past 25 years. This work of Frigidaire's service factory and of the company's service department is graphically described in a 15-minute sound-slide film, "The Story of Frigidaire Service," now being presented before dealer groups to acquaint them with this phase of the service activity.

## ROME-CONDENSER ★ Jointless Type ★

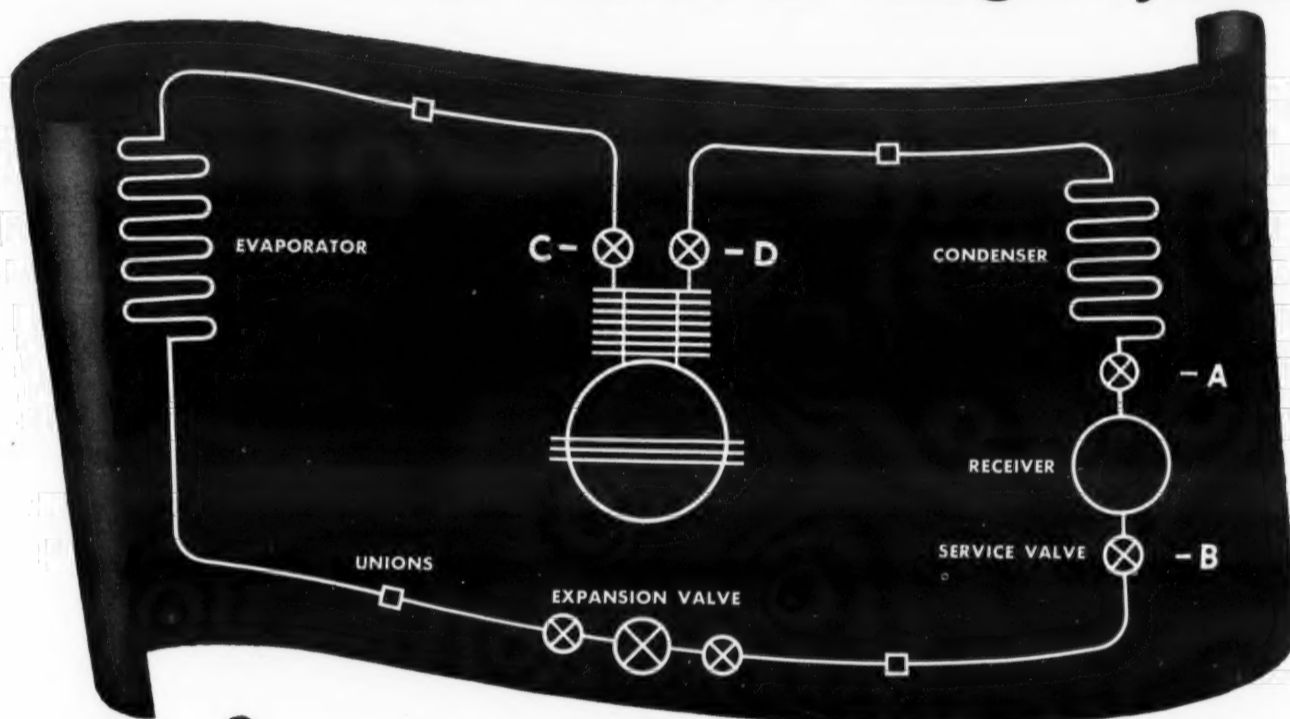


Rome Water Cooled Condenser Coils insure trouble-free condensing equipment. Used by leading compressor manufacturers.

## ROME-TURNEY RADIATOR COMPANY

222 CANAL ST.  
ROME, N. Y.

# MAINTENANCE TIPS for "FREON-12" charged Systems



NO. 2

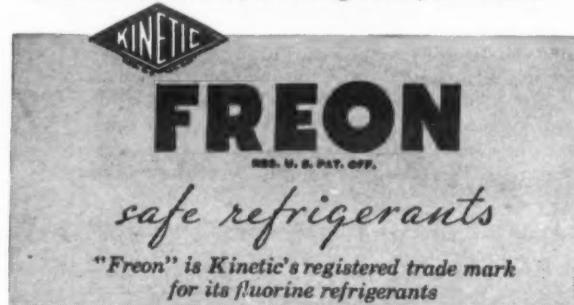
## SHUTTING DOWN SYSTEMS

Check these important points on shutting down "Freon-12" charged systems during periods when operation of the equipment is not required. These tips will help you conserve "Freon-12"—save you time, trouble and expense.

1. Determine the capacity of the receiver. (See diagram.) Make certain it will hold the entire charge of "Freon-12," and still have a void or gas space which is 10% of the receiver's volume. This extra space is required to allow for expansion of the liquid refrigerant at higher temperatures, and eliminates the possibility of bursting the receiver because of hydrostatic pressure.
2. When the receiver is not of adequate capacity, close valve "B", shown above. Operate the compressor, to evaporate all liquid in the line between valve "B" and valve "C". "Freon-12" then condenses, flows into receiver. Reduce the back pressure to from 2 to 5 pounds gauge reading, then close valve "A".

3. When the receiver is not of adequate capacity, close valves "A", "B", "C" and "D" to isolate the refrigerant in separate sections of the system.
4. Test all valves to guard against leaks during the shut-down period. Send for free reprints of our previous advertisement in this series explaining "Leak Detection and Correction."

Pass this page along to others in your business who may be concerned with the operation and maintenance of "Freon-12" charged systems. Write today for as many free reprints of this advertisement as you need, or for any further information we can supply which may be of help. Address: Kinetic Chemicals, Inc., Tenth and Market Streets, Wilmington 98, Delaware.



BUY A WAR BOND EVERY MONTH

# Who's Going to Get the Green Light First to Manufacture Appliances?

## Wholesalers Hear WPB Official Outline Factors Which Must Be Considered

CHICAGO—The big question in the resumption of appliance production, as far as manufacturers and their distributors and dealers are concerned, is this: who is going to get the green light first?

Dean C. Gallagher, deputy director of the Wholesale and Retail Trade Division of the War Production Board, brought out this point flatly before the members of the National Electric Wholesalers Assn. at Chicago's Stevens hotel during their second war convention recently.

No pat solution has been worked out yet, he said. The problem has to consider the three different groups of

manufacturers that will be bidding for immediate participation in the postwar appliance market.

First, there are the many prewar builders of electric appliances whose entire plants and personnel are tied up in war production, and who will not be able to let go, in most instances, until the final bugle blast. Are these to be penalized by being left behind?

### Two More in Picture

Second and third in the same picture are the manufacturers who, because their production will not hinder them, or who are new in the field, will have made their plans and plants ready for immediate production as soon as WPB releases the permission and the basic materials for getting under way.

The public has gone without many badly needed appliances because war needs come first. Will they protest, through their representatives in Washington, that when partial production is possible without interfering with war's demands, WPB has no right to bottle up that production for the sake of a few manufacturers?

This unequivocally is a major

problem coming up, Mr. Gallagher said. And the distributors and dealers representing each of the different manufacturers in question will be equally concerned in it.

No answer has been worked out yet, he stated. There is still too much war ahead for that. But WPB does recognize that the question must be met eventually, and without ducking. He sketched a brief outline of the many factors that apply:

Trends in material have changed during the past year, he pointed out. Many metal content supplies have been relaxed, but lumber, paper products and textiles have tightened up.

### Chief Limiting Factors

The chief limiting factors he listed as follows:

1. Manpower, the greatest present problem.
2. The necessity of keeping industry geared to war production until the war has passed the critical stages.
3. Transportation difficulties.
4. Shortages of basic materials.
5. Price ceilings.

Out of these fundamental difficulties another is beginning to emerge, he said, as war on the production front is being licked: the orderly movement of surplus materials into normal trade channels.

Surplus material is divided into

two major classifications, he explained. First, all material made available through termination of war contracts is owned by the war contractors themselves.

Second, the material owned by the armed forces and the government, which will be sold by the government as it becomes unnecessary to the war effort.

Material in the first classification, for the most part raw material industrial electrical supplies, needs specific paper clearance before it can be sold to anyone.

### WPB Is Mailing Bulletins On Material Available

To facilitate this, practically all WPB Regional Offices are mailing, upon request, periodic bulletins listing the material available, Mr. Gallagher revealed, and Priorities Regulation No. 13 is the procurement form to use.

This material can be reported on WPB Form 547 so that anybody purchasing it is not penalized on his regular line from the standpoint of inventory.

Remember also, he said, that each Regional Director is given full power to suspend any WPB regulation to allow the purchase of such material. If necessary he can suspend the provisions of Order L-63.

Surplus material owned by the government is routed through one of two major disposal agencies, as explained in the recent Baruch Report. The Reconstruction Finance Corp. disposes of all real estate, facilities, and capital equipment.

The U. S. Treasury disposes of consumer goods. That category isn't too definite as yet, Mr. Gallagher admitted, but he believed that most of the products sold by electrical wholesalers would come under it.

### Seek Simpler Procedure

WPB has been working to get simpler procedures in releasing this material, he explained. They have recommended to the treasury that merchandise lots be sold in smaller quantities, so that the smaller wholesalers will have a chance to buy.

They have also suggested eliminating the present practice of selling only to the highest bidder, and instead establish reasonable fixed prices. If the material could be separated and marked beforehand, WPB has pointed out, legitimate firms, rather than only speculators, also would be able to buy.

Recommendations along similar lines have been made to the Surplus Property Administrator, he disclosed. An inspection service, for example, to announce the condition of the goods and to rewrite Army and Navy specifications into trade terms, would help disposal considerably.

The appliance and electrical supply industries have contributed greatly to working out these plans, Mr. Gallagher acknowledged. The Household Appliance Committee is made up of representatives from it, and from chain and mail order houses, department stores, the hardware industry and public utilities.

### Strictly a Private Problem

He brought out one problem in which he believed Washington legitimately has no part. Several distributors, he said, have approached WPB for help where they have been notified by their prewar appliance manufacturers that their franchises will not be continued after the war.

This is strictly a matter between the manufacturer and his distributor, Mr. Gallagher said. Government intervention would be resented eventually by all concerned.

"The men in our division were all businessmen before the war," he protested. "We want to get our job done and get back into business."

"Our job is to relax controls, not build them. We believe in free enterprise. The distribution system we had before the war was quite satisfactory. We have no intentions of changing it."

### Marsh & Wetzel Head New General Controls Offices

GLENDALE, Calif.—William Marsh and L. E. "Rusty" Wetzel head the Boston and Cleveland branches, respectively, opened recently by General Controls Co., controls manufacturer here.

A native New Englander, Mr. Marsh has had 20 years' experience in the automatic controls industry and helped develop numerous controls for both the gas field and sectional control applications. The Boston branch, which he will manage, is located at 687 Boylston St.

Mr. Wetzel, head of the Cleveland branch at 1505 Broadway, is a graduate of Purdue university and John Huntington Institute Technical college.

**ELECTRIC WATER COOLERS**  
ALL SIZES FOR  
NAVY AND LAND USE  
MEET GOVT. SPECS.  
QUICK SHIPMENT  
Exclusive Dealer Franchise  
MFD. BY  
**THE REVELATION CO.**  
L. E. RABJOHN  
2801 San Fernando Rd. Los Angeles 41, Calif.



Illustration is from Inland Poster showing an operation in the production of Inland-made Spark Plug Terminal Seal

Inland's broad experience in the compounding of synthetic and natural rubber for hundreds of peacetime and war products enabled us to formulate a special synthetic rubber compound for the Spark Plug Terminal Seal. This Seal, a tiny part weighing only 11/20,000 of a pound, helps keep aircraft ignition systems performing satisfactorily in the rarified stratosphere.

Today, the Terminal Seal is one of many parts by Inland helping American bombing and fighter planes complete their missions at higher and safer altitudes.

INLAND MANUFACTURING DIVISION  
General Motors Corporation, Dayton, Ohio

Inland Products for Victory include Carbines, Tank Tracks, Gun Sights, Helmet Liners, Extinguisher Horns, and Rubber and Metal Parts for Tanks, Aircraft, Submarine Chasers, Torpedo Boats, Artillery Lighters and Landing Craft.



**INLAND**

Manufacturing

RUBBER, METAL, PLASTICS



"The Record is Trouble-Free"

**KELVINATOR**  
CONDENSING UNITS  
SEALED • OPEN

For your home—remember Kelvinator Refrigerators, Electric Ranges, Water Heaters, and Home Freezers. . . . They, too, are famous for "trouble-free performance."

## Possibility of More Civilian Goods Seen In Relaxing of WPB Labor Restrictions

WASHINGTON, D. C.—A policy for the resumption or increase of production with respect to labor areas, designed to assist in meeting the problem of an inadequate labor supply for war production programs, and at the same time to provide for increases in the production of the most essential goods for civilians, was announced last week by Donald M. Nelson, chairman of the War Production Board.

In substance, this re-states the established WPB policy that resumption or increases of production will be authorized only when they will not interfere with military programs, and stipulates that as a general thing such resumption and increases should be placed in areas designated by the War Manpower Commission as Group 3 and Group 4 areas.

It is made flexible enough, however, to provide that available facilities and manpower in the tight labor areas may be used for resuming or increasing production under proper screening of projects to make certain that there will be no interference with military production; and it is given further flexibility by exempting small manufacturing plants from all of the restrictions which are set up for programs in Group 1 and Group 2 labor areas.

The policy was worked out by Mr. Nelson and Executive Vice Chairman Charles E. Wilson after extended surveys of the feasibility of "filling in the chinks" in America's production mechanism so as to provide maximum war production and the fullest possible support for the essential civilian economy.

Embodied in an administrative order signed by Mr. Wilson, and accompanied by a staff memorandum distributed to Bureau and Division directors by L. R. Boulware, Vice Chairman for Operations, the policy stipulates:

1. That approved production programs be placed, as far as possible, in Group 3 and Group 4 labor areas.

2. That portions of such programs may be put into Group 2 labor areas if it can be shown that this can be done without interference with military production. Any such action must have the approval of the appropriate Vice Chairman.

3. That resumption or expansions of production may be authorized for Group 1 labor areas only after clearance and approval by the Area Production Urgency Committee. Where no such committee exists, approval by the Executive Vice Chairman is required.

4. That these limitations shall not apply to plants whose total employment, after the proposed production increases have been effected, will not exceed (a) 50 persons, in the critical West Coast labor areas of San Diego, Los Angeles, San Francisco, Portland, and Seattle, and (b) 100 persons elsewhere in the United States.

Mr. Nelson and Mr. Wilson pointed out that the placing of responsibility upon Area Production Urgency Committees for possible production increases in Group 1 areas carries out the principle of decentralization and a check by local authorities.

## Sales of Dishwashers and Disposals Will Boom After War, Survey Shows

CHICAGO—Further confirmation of the belief that the postwar era will offer a tremendous market for electrical appliances is contained in the report of a survey of "home planners" recently announced by Edison General Electric Appliance Co. (Hotpoint).

The survey was conducted among 70,000 consumers who sent a quarter to Hotpoint for a "Home Planning File" during 1942 and 1943 in response to magazine advertisements. With the last 30,000 sent out during 1943 a self-mailing postcard was enclosed asking answers to several questions about consumers' postwar plans, including those for appliances.

Some 4,000 have replied, and these replies should be indicative of postwar trends, claims G. A. Rebensburg, manager of commercial research for Hotpoint, who believes that because the consumers spent money for the planning guides they have progressed

beyond the "wishful" stage and are closer to actually building homes.

When the "million-a-year" new home market arrives after the war, 61% of the builders will be families now renting, and 39% will be those who own their own homes, with 44% of the latter planning to remodel, according to the survey.

These home planners, the report indicates, want, among other things, dishwashers in 44% of the new homes, a figure considerably higher than prewar sales.

Another appliance apparently gaining in popularity is the garbage disposal unit, which will be purchased by 38%, according to the survey.

Fifty-two per cent will buy new refrigerators after the war, 55% electric ranges, 45% water heaters, 57% clothes washers, 40% ironers, and 49% base and wall cabinets, indicates the survey.

Questioned about the age of their

present appliances, consumers gave answers revealing that more than 80% of refrigerators, ranges, water heaters, and clothes washers are four or more years old. About 20% of these appliances are 10 years old, and slightly more than 10% are 15 years old.

Houses planned by 85% of these consumers will range from \$4,000 to \$8,000 in value, and 50% of these will cost \$6,000 or less, according to the survey.

In announcing the survey and its implications for the postwar appliance market, Mr. Rebensburg also stressed other important facts about the postwar sales possibilities:

1. The public now has \$25,000,000,000 in war bonds, many earmarked for postwar appliance purchases, \$32,000,000,000 in savings accounts, and other savings amounting to millions.

2. Never before has there been the ready-made demand for electrical appliances that the armistice will bring.

3. There are now 53,000,000 people now employed, 7,000,000 more than normally.



It's a foregone conclusion that the post-war demand will be for automatic "washers" — with the Bendix principle the only one proved by years of successful service outside the laboratory.

BENDIX HOME APPLIANCES, INC.  
South Bend, Ind.

The People who Pioneered and Perfected the Automatic "Washer"



**"Batter Up!"**

It takes more than wishful thinking to connect with one in the "big time." There's where the real hitters show their stuff—bring to bear months and years of painstaking training. Eyes, muscles, nerves—all perfectly trained to coordinate on that next pitch.

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is for men who want to smash out a homer in the refrigeration and air conditioning field.

It is a course of sound, practical home-study instruction balanced with actual shop work; a program that helps prepare men to make the most of the opportunities offered in refrigeration and air conditioning. It's the kind of training that helps make league-leaders out of "rookies," as well as old-time service engineers.

Founded in 1927, U.E.I. has been training men in refrigeration SEVENTEEN consecutive years! There is nothing experimental or improved in the U.E.I. Balanced Training method of helping ambitious men get farther faster. It's worked for years; it's working now.

Stop to think! Wouldn't this training help YOU in your present job—or the one you're aiming at? Then get busy and MAIL the COUPON below for FREE information. Don't wait until tomorrow—do it today, NOW.

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# War Needs Expand Application of Refrigeration Anesthesia Technique

## Now Is Used Not Only For 'Bloodless Surgery' But For Frostbite Cases and Burns

By Lealon Martin, Jr.

Refrigeration has come to medicine's aid so dramatically in World War II that its wide application today may provide one of the greatest modern miracles for humanity in a day not far off.

Here are the major medical benefits of refrigeration in which definite accomplishments have already been recorded:

1. Shockless, drugless, bloodless surgery through the anesthetic, healing properties of refrigeration.

Refrigeration anesthesia has been tested and improved under war conditions. Amputations without pain, conquering death-dealing shock, particularly in wounds of the arms and legs, are chief advantages. "Cold nerves cannot transmit impulses and cold tissues cannot respond with shock or any other harmful reaction," explains Dr. Frederick M. Allen, of New York City, leading figure in this new therapy, in discussing the technique.

The principle behind refrigeration's beneficial properties is as simple as his statement—and a special electrical refrigeration unit developed for battlefield use is no more complicated. Furnished for military purposes is a unit that measures

14 x 14 x 28 inches and weighs only 200 pounds. It can be placed on the floor, sides, top, of a truck or ambulance, upon a running board or under the driver's seat; it is operated by the auto's engine.

### HOW IT IS APPLIED

A soldier with a shattering leg wound, to take an example, will have the limb quickly wrapped by First Aid men in a blanket equipped with tubes through which coolant circulates. Prior to use of cold, the tourniquet that was applied to control hemorrhage had to be released periodically to allow life-giving blood to flow into the tissues. Loosening of the tourniquet thus caused more loss of precious blood, let poisons from the wounded leg flow back through the veins into the body—there to produce harmful shock.

Under refrigeration, this loosening does not have to be made—because the dormant, chilled cells of the leg do not require oxygen. Nor do the shock poisons get into the rest of the body.

"Casualties are transported without harm," succinctly sums up Dr. Allen—and Army and Navy officials have been favorably impressed with

the apparatus in every demonstration.

A point to be remembered is pointed out by Dr. Lyman W. Crossman, associate of Dr. Allen, who says: "We do not freeze. We just refrigerate. We never get the limb below 40° F."

### NON-SURGICAL USES

2. New non-surgical uses of refrigeration as an anesthesia. Advantages: it reduces blood oozing, cuts bacteria growth, prevents toxic (poison) absorption in injuries from wounds and accidents.

Describing some of these recently, Lt. Col. Warner F. Bowers, Medical Corps, U. S. Army, told how soldier patients with badly crushed limbs, that would otherwise have had to be amputated, have been saved through refrigerating the injured part to the "color of pink, refrigerated meat," maintaining this for hours, even days. "Refrigeration therapy introduces an entirely different concept in the field of anesthesia," declares Col. Bowers.

### IN CASES OF FROSTBITE

3. Still another war use of refrigeration is in frostbite and "immersion foot."

With troops serving in sub-zero weather in the Arctic and Antarctic regions of the world, frostbite is a fairly common ailment in spite of all precautions. Keeping the frost-bitten part chilled and sustaining a cooling, very gradually raised temperature is effective. Pain is reduced; recovery seems quicker.

## Mobile Units To Transport Whole Blood Get 'Top Priority' Among Invasion Equipment

LONDON, England—Whole blood, to be stored and transported under refrigeration, is being prepared for American invasion casualties, reveals Lieut. Col. Angvald Vickoren, in charge of troop training and movement for the medical division as well as responsible for plasma and blood supplies in the coming operations.

Refrigeration equipment is being designed for preservation of whole blood, including some refrigerated mobile equipment so that blood can be taken quickly from place to place as needed. This equipment will get "top priority" in the list of invasion equipment.

Now devising arrangements for blood collecting, Col. Vickoren emphasized that plasma, although extremely important in the saving of lives, does not always provide a complete substitute for blood. Refrigerated whole blood will be on hand for use when plasma alone will not suffice.

Both plasma and whole blood are used extensively at present in the

American hospital units in Great Britain to treat men wounded in air battles and in training for the ground invasion.

The American programs for plasma and whole blood are kept separate from the British, although many British civilians have donated blood for American use.

"The British will need their own blood both for immediate transfusion and plasma and we should rely on our own," explained Col. Vickoren.

Plasma, said Col. Vickoren, is rated by medical men throughout the world as one of the three greatest medical developments applicable to this war, the others being sulfa drugs and the air evacuation of wounded.

Use of plasma in warfare permits surgeons "to get their hands on a wounded man," pointed out Col. Vickoren. Easily administered at the front where the soldier is wounded, plasma effectively relieves traumatic shock, which formerly killed thousands of soldiers before medical attention was available, he said.

4. Refrigeration alleviates the pain of cancer.

Dr. Temple Fay, of Philadelphia, pioneered the famous experiments which, though they failed to produce cures apparently, did bring relief to many patients with incurable, painful cancer. Dr. Fay used a mechanical refrigerating apparatus coupled to blankets carrying refrigerating fluid.

### TREATMENT IN MENTAL CASES

5. Refrigeration has proven useful in treating mental cases.

Experiments in this direction, though spasmodic, go back over many years. In another century an English physician tried immersing a mental patient in icy brine, found it helpful. In modern times ice and mechanical refrigeration have been employed. The field has not been exhausted. (Concluded on Page 9, Column 1)

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You can manufacture many refrigeration products for civilian use

### FARMS

With the recent relaxation of limiting orders on commercial refrigeration, the government has now made it possible to supply new equipment for certain essential uses.

### INSTITUTIONS

For example a dairy farmer is now eligible to buy milk coolers; while hospitals, hotels and all those institutions that require new refrigeration equipment for essential food preservation and many other uses can also purchase new units.

### INDUSTRIAL PLANTS

Special processes employing refrigeration (many developed for and used only on war equipment) are now released for general industrial use.

The priority regulations are changing almost daily making materials available for previously "frozen" products. When your products are released, remember—Chieftain units are still the leader.



**Chieftain**

**TECUMSEH PRODUCTS CO.**  
TECUMSEH • MICHIGAN

## 'Cold' Anesthesia Has Found Most Recent Use In Burn Cases

(Concluded from Page 8, Column 5)

explored fully, may perhaps not benefit from war's advances as other utilizations of refrigeration, but it also has shown promise, holds potentialities.

6. Refrigeration for severe burn cases where anesthesia is needed is the most recent triumph.

War brought this great development. Lieut. H. E. Mock, Jr., Medical Corps, U. S. Army, decided that, if refrigeration took away pain when the tourniquet was applied and removed, it might help in slicing large areas of fresh skin to be applied to a severe burn site.

Casualties so badly burned that the wounds won't heal have to supply healthy skin from an uninjured area of their body. A thin layer from the thigh or stomach is sliced off by the surgeon, who places this upon the wound, where it grows and covers the wound. Skin slicing is intensely painful; the knife severs countless tender nerve ends. Lieut. Mock discovered that by refrigerating the area from which the fresh skin was to be taken he could slice off the required piece without causing pain. No general anesthetic, as formerly needed, had to be used. Phenomenal results have been reported for this technique; in the first 24 cases no pain was felt in a single case; healing of the wound site was produced in all but four.

The American Medical Association has predicted that the field of usefulness for refrigeration in medicine will be greatly expanded in the immediate future. The above accomplishments bear this out. There are, however, still more striking potentialities.

### WHAT IT DOES FOR BURNS

Refrigeration, for example, may provide a complete, miraculous recovery from otherwise fatal burns. Dr. Allen has performed experiments tending to indicate this. The chilling of burned areas reduces shock, it slows bacterial growth in these areas, it reduces pain.

In one striking experiment with rats, two groups of rodents were subjected to very severe burns. One group was stored at 99° F. The other, similarly burned group were stored at 75° F. Of the first group, every rat died. Of the refrigerated group, only 25% died!

Another potentiality for refrigeration is being explored by English physicians. This is the use of refrigeration for bomb-shocked persons. People, trapped by bombings in wrecked homes and shelters, have been hauled out of debris with no apparent injuries, have seemed cheerful, well. A few hours, or a day or so, later they have died—following conventional shock treatment: the use of heat. But cooling, placing in a refrigerated room, may be the answer that can save lives here.

### TO STORE HUMAN INHERITANCE?

Perhaps the most startling experiment with refrigeration, as far as the sociological implications go, is one conducted by Dr. Hudson Hoagland, of Worcester, Mass. He froze human spermatozoa in liquid nitrogen at 319° below zero—so quickly that the cell structures were undamaged. Later heated, they were, in considerable percentage, alive, apparently potent. What this seems to mean is that it may be possible to store human inheritance for years.

## Seabees' Flakeice Units Produce Ice In 1 Minute For Medical Use

Navy Doctors Use It For Surgery & Head Wounds At Battlefronts In The South Pacific Theatre

WASHINGTON, D. C.—Refrigeration anesthesia, a revolutionary technique in surgery that is said to be bloodless and shockless, is being used successfully on the battlefront by units of the Navy's Medical Department attached to Construction Battalion detachments in the South Pacific. This was revealed when medical officers recently returned from that area listed the new method among the various medical uses of flake ice in the tropics.

### INSTANTLY AVAILABLE

The flake ice required for anesthesia, known also as "cold surgery" and as "protoplasm anesthesia," is made instantly available by ice making machines made by York Corp. These machines, called "FlakIce," are self-contained, portable and are

capable of producing ice within 60 seconds after being connected in to the existing power source. Utilizing stored water or any available local supply, the ice makers can produce a ton of flake ice every 24 hours. At least one such machine is allotted to every 250 Seabees.

In addition to its use in anesthesia, other medical uses of flake ice reported by the Navy include general treatment of face and head wounds, reducing fevers and swellings, and relieving pain. Moreover, the flakes have numerous other applications important to Seabees' health, comfort and general welfare.

### FREEDOM FROM PAIN

Older methods of anesthesia provide for the nerves alone, while the refrigeration method offers anesthe-

sia of the whole living tissue substance with a consequent remarkable freedom from pain and shock. As refrigeration holds everything in abeyance and checks bacterial growth, infection is said to be far less likely. It is also claimed that cases with shattered limbs can be transported in greater comfort and with much less danger and endure necessary delay for longer periods in greater safety.

### METHOD OF USE

According to a description of the new technique in a paper entitled "Refrigeration Anesthesia in Leg Amputations," by Lieutenant Commander Samuel Perlow, M.C., U. S. N. R., in the February, 1944 issue of the U. S. Naval Medical Bulletin, the anesthesia is accomplished by first chilling the wounded arm or leg with an ice collar for 15 to 30 minutes to produce sufficient skin insensibility to permit application of a tourniquet without pain. The tourniquet shuts off the arterial and venous circulation. The extremity is then packed in ice and covered with a rubber sheet.

The temperature of the water and

of the skin of the ice-packed extremity remains at about 4 to 5 degrees C. The duration of the refrigeration necessary for complete anesthesia varies with the thickness of the extremity, from one and one-half hours in the case of a leg to five hours for a moderately muscular thigh. At the end of the required period, the article says, the surgeon can begin to operate without any further anesthetic being given. This avoids the necessity of giving a general anesthetic such as ether for treatment of a minor wound and avoids subjecting the severely wounded to the added burden of a general anesthetic.

### HELPS PREVENT SHOCK

The new method has the added advantage of helping to prevent or treat shock which is likely to develop after wounds. Because the refrigeration reduces the consumption of oxygen by the tissues, the tourniquet can be left on for many hours without danger of decay and death of the extremity. Thus is avoided the suffering and loss of blood from periodic loosening of an emergency tourniquet.



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Throughout Kerotest's sweeping conversion to war valve production . . . through the three-shift, 24-hour-a-day outpouring of Kerotest products for Victory . . . one standard of quality has prevailed: the KEROTEST standard—serving a fighting America with indispensable valve performance at home and abroad.

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THE BATTLE PROVEN  
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THE PROTECTING GROUNDS OF WAR offer dramatic confirmation of the ability of Cordley Electric Water Coolers to withstand hard knocks. Supplied since 1942 for shipboard use to the Navy (Contract NKs 9982) and to the Maritime Commission. These same Battle-Proven Coolers are now available for land use in homes, offices, and for facts.

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## Sterling Smith Analyzes Parts Jobber's Position, Sees Need For 'Package' Items

CHICAGO—Members of the National Refrigeration Supply Jobbers Association got an "outsider's" viewpoint on their problem of whether or not they should sell "package" refrigeration items such as home freezers, commercial boxes, etc., in the postwar era, when Sterling Smith, Chief of the WPB Refrigeration Section, addressed them at their recent meeting.

Declaring that he was not "trying to tell them how to run their business" but merely "passing on to you some observations I have picked up in Washington in regard to the overall picture in the refrigeration business with an attempt to apply those observations to your type of business," Mr. Smith said:

### HAVE SPECIAL PLACE NOW

"Right now, very few, if any, of the jobbers are engaged substantially in the distribution of the products of the refrigeration industry other than, of course, parts and supplies, high sides and low sides. Very shortly the manufacturing units of the refrigeration industry will pour out an ever increasing volume of equipment for which there will be a great demand. I can visualize that the jobber will take a very important part in the distribution of this equipment and they must take an important part in it or they will not survive.

"There is an ever increasing demand for various items of equipment for the replacement of existing in-

stallations. A condensing unit here, a cooling coil there, or a complete system some place else. This demand is going up because for the most part where this equipment is being replaced it is impossible to obtain a new item which would be complete with the low side or be sold with a new high side. The user of refrigerated fixtures of various kinds patches his job up until such time as he can buy a complete new installation.

### TREND TO HERMETICS SEEMS OBVIOUS, SMITH SAYS

"From all that I can see, a great majority of the insulated enclosures which will be offered in the postwar years will be self-contained and powered by hermetically sealed units. This evolution is inevitable and since these jobs will be installed complete in the manufacturers plant, there will be no sale of expansion valves, copper tubing fittings, manifold valves, and other equipment or material which would generally be sold by the jobber to the service men to make the installations in the field.

"Then, too, when this hermetically sealed condensing unit fails to function properly, a replacement unit will be installed into the defective job and the defective unit will be sent back to the original manufacturer for repair. This means that there will be no sale of pistons or disc valves, replacement seals or what have you that would be sold for the servicing

of an open type unit installed in a remote location.

### 'THINKING' NEEDED NOW

"With this picture in front of him, the jobber, in order to maintain his volume, is going to have to handle some type of equipment to keep his sales volume up and his books in black ink rather than red ink.

"Personally, I think it behooves the jobber to start right now spending a lot of time planning and thinking about what he is going to handle, how he is going to distribute the product or products, and lay the ground work for this distributing operation.

"I say to you jobbers that you had better analyze your marketing areas very cold bloodedly and select the products which you think will best fit into your territory and then go after them for if you do not plan, you will not survive.

### HAVE CUSTOMER CONTACTS

"Let me sum up by saying that you gentlemen of the jobbing fraternity have a golden opportunity to cash in on your position in the distribution picture of the postwar period.

"You have the basic contacts through your service man customers which will enable you to obtain a choice cut of the replacement business. You have contacts with manufacturers which should enable you to pick and choose the products of

the postwar refrigeration world to fit into your distribution pattern. You are familiar with the type of equipment already installed in your trading area and through your contacts, you can survey the demands for the future.

"Sit down, think it over, and plan. The refrigeration and air conditioning section of WPB is planning for the future. These plans, when completed, or put into action, will bring added business to the jobber. These plans will make it possible for the members of the jobbing fraternity to cash in on their contacts with the manufacturers and with their service man customers."

## New Hawaiian Firm To Distribute All Types of Appliances

HONOLULU, T. H. — Electrical Distributors, Ltd. has been established here to merchandise domestic and commercial electrical appliances and radio equipment throughout the Hawaiian islands.

Ross Gilliland, who is president of the new firm, has for the past three years been sales manager of the appliance department of Territorial G-E Distributors, here. Formerly with G-E Supply Corp. in Los Angeles, Mr. Gilliland has had 18 years' experience in electrical appliance merchandising.

Ernest Kai, vice president of the outlet, is secretary of the Territory of Hawaii and was formerly Attorney General of the territory. Secretary-treasurer is Chinn Ho, local business man.

Besides the officers, directors of the organization include Dale Hock, formerly chief of radio service with Territorial G-E Distributors; and K. T. Lee, assistant cashier, Liberty Bank of Hawaii.

In the folder announcing its formation, the new firm emphasizes the high percentage of wired private buildings as an indication of postwar sales possibilities.

With the total population of the islands (July 1, 1941) listed at 465,339, there were 98,234 wired buildings in the territory, not counting the many thousands of wired dwelling units in military areas.

Population of Kauai island is 33,479 with 6,619 wired buildings. Most populated island, Oahu, where Honolulu is located, had 310,503 residents with 58,380 wired buildings; Maui island, population 46,919, wired buildings, 9,904; Hawaii island, population 68,398, wired buildings, 23,331. No data on wiring is available for Molokai island, population 5,340, and Lanai island, population 3,720.

## Frank Walbridge Has M-H Cleveland Zone

MINNEAPOLIS — Frank E. Walbridge has been named supervisor of refrigeration control sales for the Cleveland zone of Minneapolis-Honeywell Regulator Co.

The territory over which Mr. Walbridge will have supervision comprises Ohio, Northern Kentucky, West Virginia, Western Pennsylvania, Western New York, and Michigan.

Mr. Walbridge started with Minneapolis-Honeywell in 1936 as retail salesman in Cleveland. He became manager of the retail sales department and was then assigned to the heating controls division, Cincinnati office. In 1942 he worked on war production at the company's Minneapolis plant, later returning to Cincinnati. His new assignment became effective April 1.

## Guimont Joins Staff Of O. D. Jennings Co.

CHICAGO — Richard L. Guimont, for the past 15 years with Minneapolis-Honeywell Regulator Co., has joined O. D. Jennings & Co. as a field sales engineer, announces E. A. Terhune, vice president and assistant to the president.

During the war Mr. Guimont will serve as a liaison man between the Jennings company and prime contractors for whom the company is producing aircraft and radio parts on sub-contracts. In the postwar period Mr. Guimont will sell refrigerated vending machines made by Jennings.

## Peerless Executive

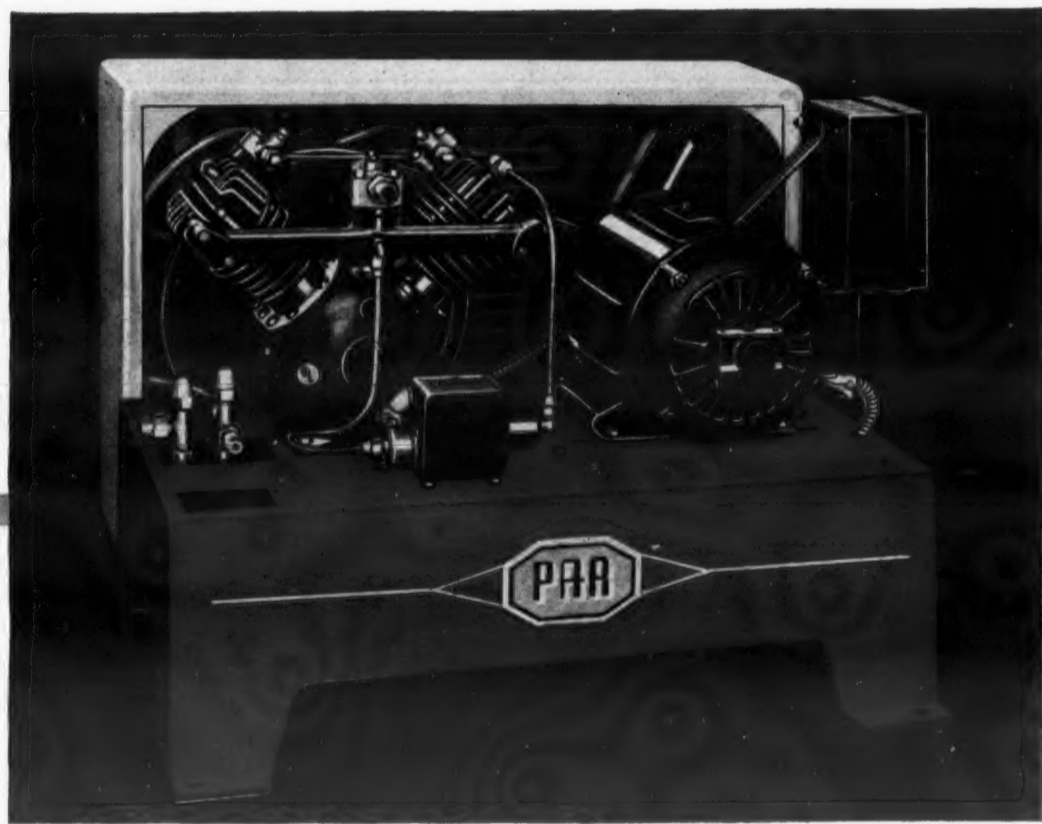


EDWARD L. POSS

Who has recently been appointed to head up the newly formed advertising department of Peerless of America.

## Hulsapple Now With Development Corp.

NEW YORK CITY — Montgomery B. Hulsapple has been appointed vice president and secretary of Refrigeration Development Corp. here. A graduate of Union college, Schenectady, N. Y., he was formerly with American Airtrol Corp. and was a member of the engineering staff of Otis Elevator Corp.



## Par Model HA-20

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● 2 H.P. 4 cylinder model with extra large surface condenser to give efficient service.

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Refrigeration Service Manpower Committee.*

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Principal, Apprentice Training School.

Chairman Refrigeration Committee.

Number Hours of Instruction \_\_\_\_\_

Superintendent of Schools.

This is the certificate that was given to graduates of the first class to complete the refrigeration service training course sponsored by the Local Service Council of Syracuse, N. Y. as part of the National Refrigeration Manpower Training Program.

## Syracuse Service Council Graduates One Class of Trainees, Others Still Going

SYRACUSE, N. Y.—First class to be graduated in the nation-wide refrigeration training program sponsored by the National Refrigeration Service Council and the War Manpower Commission consisted of 13 men who completed their 200-hour course at the Apprentice Training School here March 31, reports A. W. Snyder, product manager of Gould-Farmer Co., Inc. and permanent coordinator of the Syracuse Local Council.

The course started Feb. 28 and consisted of eight-hour sessions five days a week. Each graduate has been employed by service organizations, Mr. Snyder said.

"We felt it necessary to bring along some trainees as quickly as possible since the ranks of refrigeration service men were practically depleted in our section," said Mr. Snyder, to explain the intensive training schedule.

Two evening courses were started on March 6. In each class there are 17 enrollees who attend classes Monday, Wednesday, and Friday nights from 7 to 10 p.m. In addition a second group of men has started a day school course and are now in their fourth week.

Practically 100% attendance has marked the courses, in spite of the

fact that most men in the evening classes come from suburban areas, some students traveling as much as 45 miles on buses to attend, Mr. Snyder said.

"We have had excellent cooperation from the War Manpower Commission and their representative, James O'Brien," declared Mr. Snyder. "Donald Kidd, head of the vocational training department of the Board of Education in Syracuse, has also given us wonderful cooperation, as has B. O. Larsen, principal of the training school," he added.

### Carrier Names Mahoney To Applications Staff

SYRACUSE, N. Y.—John L. Mahoney, formerly of Philip H. Harrison & Co., northern New Jersey, distributor for General Electric Co., has joined the staff of Carrier Corp., according to E. T. Murphy, senior vice president.

Mr. Mahoney, who was in charge of refrigeration and air conditioning sales for 15 years in the Harrison organization, will be affiliated with Carrier's intensified work in the applied refrigeration field.

## Refrigeration Industry Output of War & Cooling Items Totaled \$200 Million In Final Quarter of 1943, WPB Reports

WASHINGTON, D. C.—Shipments of combat material from 85 plants that were engaged primarily in the manufacture of domestic and commercial refrigeration equipment before the war reached an all-time high of almost \$150,000,000 in the last quarter of 1943, the War Production Board reported last week. Shipments of combat material have been mounting steadily since the beginning of the war, WPB added.

### BIG BACKLOG OF ORDERS

Shipments of all products—combat material, refrigeration equipment, and other goods—from the same plants totaled more than \$200,000,000 for the same period. Enough unfilled orders of all kinds were on hand at the end of 1943 to keep the industry busy for about a year at the fourth-quarter rate of production, WPB said. This does not take into consideration possible cutbacks in military programs.

Total employment in the 85 plants

reached a peak of 73,000 wage earners in October, 1943, an increase of 60% over the June, 1942, total. Overall employment and unfilled orders continued at a high level through the end of 1943, though both had declined slightly from the fall.

### NUMBER OF WOMEN RISES

More than half of the workers added after the middle of 1942 were women, with the result that women constituted 23% of the employees in the industry in January, 1944, as compared with 8% in June, 1942. The number of women employed in individual plants varied widely. In January, 1944, no women were employed in over 20% of the 85 plants, while more than half of the workers in a few plants were women.

Seventy-four of these plants, included among the 309 plants classified in the refrigeration equipment industry in 1939, accounted for 90% of the total production (\$279,000,000) by the industry in that year and for

89% of the 35,000 wage earners then in the industry.

After curtailment of pre-war production in the industry in the spring of 1942, the majority of the plants moved rapidly into munitions production. The average monthly volume of shipments at the end of 1943 was almost double that of June, 1942.

Production of combat material accounted for all the increase. Aircraft parts, which have constituted over half of the military production in the refrigeration plants since the spring of 1943, were chiefly responsible for the rise in over-all volume.

### GUNS ALSO PRODUCED

Guns and fire-control equipment, ship equipment, and ammunition ranked next in importance. Increases in production of items in these categories since the beginning of the war have been moderate.

At the same time, shipments of certain types of pre-war products, such as industrial and commercial refrigeration equipment and replacement parts for commercial and domestic refrigerators, have continued at a high rate. Though the total value of shipments of pre-war types of refrigeration equipment in the last three months of 1943 averaged less than in previous months, it accounted for 18% of the output in the 85 plants.

# 4

*ways*

to increase the  
efficiency of your  
line of soda  
fountains



### OIL SEPARATORS

These Temprite suggestions will materially assist your engineers in designing new soda fountain equipment because each unit listed here performs a valuable function in obtaining "maximum operating efficiency". Temprite's Oilrite Oil Separators will keep oil out of the lowside evaporator and coils thereby resulting in 4 to 8 degrees lower temperatures without an increase in operating time.

### TWO TEMPERATURE VALVES

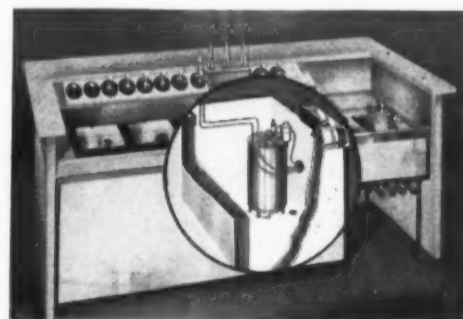
Temprite's Two-Temperature Valves are designed to maintain constant temperatures at all times regardless of lower temperatures existing in other parts of the system. These valves are ruggedly constructed of corrosion resistant metals, extremely sensitive in operation and have a wide range of adjustment.

### EQUALIZER (SURGE) TANKS

Temprite Equalizer Tanks are used to overcome short cycling of the condensing unit caused by intermittent operation of the fountain coolers. These Equalizer Tanks act as a suction gas storage tank between the fountain lowside and the condensing unit.

### INSTANTANEOUS BEVERAGE COOLERS


Temprite Instantaneous Beverage Coolers are unique in design because, unlike other beverage cooling units, the water coils of the Temprite are submerged directly in the liquid refrigerant. In this way water is cooled instantaneously, for the heat from the water being cooled passes directly into the main body of the refrigerant. The small size and large capacity of the Temprite unit is an added advantage because it permits a very compact and close coupled installation. These Temprite Instantaneous Beverage Coolers are widely used by soda fountain manufacturers who recognize the many superior features of these units. To better acquaint your engineering staff with these Temprite Products, and how they can be applied to your particular units, we invite you to correspond with our sales department today.



Installation of Temprite Instantaneous Soda Fountain Water Cooler

# VIRGINIA

## Refrigerants



**TESTED  
PURITY  
for  
SERVICE  
SURETY**

"EXTRA DRY ESOTOO", "V-METH-L" AND METHYLENE CHLORIDE

AGENTS FOR KINETIC'S "FREON-12"—AND "FREON-22"

## VIRGINIA SMELTING CO.

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## TEMPRITE PRODUCTS CORP.

Originators of Instantaneous

43 PIQUETTE AVENUE



Liquid Cooling Devices

DETROIT, MICHIGAN

# Air Conditioning & REFRIGERATION NEWS

Trade Mark registered U. S. Patent Office;  
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F. M. COCKRELL, Founder

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## Future Partners: Aircraft and Refrigeration

EXCITING as are so many of the postwar prospects of expansion for the refrigeration industry, few such have the intrinsic fascination of the probable mating between the refrigeration and aircraft industries to breed a great new service in food handling.

Air transport now costs around 70 cents per ton-mile. Soon after the war air cargo people expect that charge to be 35 cents per ton-mile, and to go progressively lower as volume builds. Thus air shipment of perishable foods will become economically feasible.

Food-by-air traffic can take advantage of the fact that 20,000 feet above the ground the temperatures are in zero range. Thus the air freighter could load up on vegetables or fruits at the point of production and, at the moment of maximum palatability, zoom up to freezing temperatures in a jiffy and carry the quick-frozen produce to receiving cold-storage terminals in double-quick time.

### 17,000 LIBERATORS COULD CARRY RAILROADS' LOADS

Currently the railroads use some 175,000 refrigerated cars to transport perishable produce. Air cargo authorities estimate that 17,000 planes of the Liberator type—of which there'll probably be that many and more left with nothing to do after the war—could carry all this produce, and more.

The "and more" seems to be a certainty. Since the quality of the vegetables and fruit available to America's tables under such a system would be much better, and eventually much cheaper, than that now displayed by grocers, consumption would surely mount.

It's probably true that the big bomber-type planes now being built for

## They'll Do It Every Time By Jimmy Hatlo



war are comparatively uneconomical for air transport in peacetime. Eventually planes could be put into service which would give far better results at much lower cost per ton-mile.

But, in the meantime, we'll have all these planes. What are we going to do with them—park them out on the Arizona desert to rust away, or parcel them out for exhibition on Court House lawns like Civil War cannon?

The taxpayers have paid for them, and to junk them would be a crime. Why not lease or sell them to air cargo carriers at whatever prices the carriers find it economically feasible to use them?

### EMPHASIS OF INDUSTRY MIGHT BE SHIFTED

Some may squirm at the thought that this simple method of freezing food at the source will eliminate a market for a lot of big-tonnage refrigeration equipment. To be sure. But think of the vastly increased market for commercial refrigeration, household refrigeration, and refrigerated warehouses it would create!

It would appear to be a situation where nobody but the railroads can lose anything, and where everybody from the consuming public to the growers to the refrigeration industry stands to gain.

Whether or not our enormous post-war surplus of big airplanes is put to this use—it may be entirely too practical and simple to appeal to the planned-economy brain trust—it does seem that the rapid development of air transport is going to give a decided lift to the usage of refrigeration in the relatively near future.

### After Reconversion

UNDER the above title the last Annual Report of the General Motors Corp. contains a choice morsel of economic thinking which is an editorial itself. Quote:

"It is generally agreed that a great backlog of demand for consumer goods of all categories has been built up during the war; likewise that a reservoir of savings has been accumulated against that demand.

"Estimates of wartime savings of individuals vary greatly but it is recognized that a considerable part of these savings will be in liquid assets—in checking accounts, savings deposits, and war savings bonds. In addition to

individual savings, consumer indebtedness will have been greatly reduced—the normal reservoirs of instalment purchasing power will be refilled.

"Hence it seems clear that there will be ample purchasing power already created, in addition to that generated through current production, to maintain our enterprise system, and particularly the automotive and related industries, at a high level of activity for several years. This period might very properly be called a period of shortages.

"However, the real problem facing enterprise involves the long-term position, when current production must be balanced with currently created purchasing power.

"Then comes the real test of our economic intelligence—perhaps not that so much as a test of the ability and determination of our people to separate the true from the false and to accept the philosophy that there is no such thing as something for nothing no matter in what kind of package it may be presented; that the only way to better things is through more and more efficient work.

"If such a state of mind could be developed no one would have sufficient imagination to foresee what might be accomplished in the form of a better living for all."

## LETTERS

### TWO MORE SERVICEMEN GET THEIR TELEPHONES

J. A. Walsh & Co., Inc.  
Houston 1, Texas

Editor:

Received your recent letter in response to ours with regard to telephones for two of our service men.

In line with your suggestion, we took along a copy of the March 13 issue of the News and also your letter and a letter which we wrote to the War Production Board, copy of which is attached.

At first we were able to get very little co-operation, but finally I was able to get the data to the District Manager, Mr. Cocoran.

Mr. Cocoran wrote a letter to the Bell Telephone Co., a copy of which is attached. This was dated April 6 and on April 8 our Mr. Teel, one of my service men applying for the phone, went to the Bell Telephone Co. and talked to Miss Baker, who said that she had received a letter but that the letter would have to be sent to Washington and would probably take about 30 days or more to process.

On Monday morning, she phoned and said they could have their phones put in immediately, which indicates to me that some pressure, apparently, was put on from some other source.

In order to give you a complete picture, I am attaching copy of letter of March 21 which

I addressed to Mr. Sterling F. Smith at Washington and copy of his reply, dated April 5.

I believe the above will give you the complete picture, and I want to take this opportunity of thanking you for your cooperation in this connection.

The only thing that I regret about the whole set up, not only on this but other things, is that so much trouble, letter writing and time must be taken up before things that we feel are essential, and finally are proved so, are able to be passed. We hope that some way the War Production Board and the Telephone Co. will get together and automatically give the telephone to service men on authorization from the manager of any recognized company.

JAMES A. WALSH, President

### WHY NOT USE SURPLUS GOODS TO HELP WAR VETERANS?

Doherty-Stirling, Inc.  
Baton Rouge, La.

Editor:

I have read the letter on the editorial page of REFRIGERATION NEWS by a Mr. Wallace W. Lowenstein. He says in part 13, "When the War ends all the refrigerating equipment in the camps and other projects should not be thrown on the market here in America. It should be exported, otherwise the market will be demoralized right in the very start."

This sort of talk and thought is evidently going the rounds, as I note in Edison's recent Washington Column, in which he says that Washington opinion in regard to disposal of government owned war plants is, "Lock them up the day War ends, and throw the key away so they won't be placed in competition with private industry. This idea is modified to the extent of keeping the plants in a stand-by condition until the next war comes along. Somewhere else I read where people in the automobile and truck business wish to see all the jeeps, cars, and trucks left over from the war, dumped across the water so that they will not interfere with their future manufacture and sale.

Air conditioning, and refrigeration equipment, war plants, motor cars, trucks, and man hours are national wealth. This kind of leadership and talk leaves me entirely cold. It makes about as much sense as the union pipe fitter who deliberately cuts the threads from a length of pipe so that he can make hours rethreading it, the union electrician who deliberately removes the wires from some electrical apparatus so that he can make hours rewiring it, the brain trusters who in 1933 sold the New Deal on the idea of plowing under the corn and killing hogs.

Most of the equipment owned by the Army and Government today represents the most modern and up-to-date kind. We have installed air conditioning and refrigeration for Army Camps in our section and know America can absorb this fine equipment without hurting future manufacturing or sales. It is hoped that the Government will use good old common sense, and leave experts alone. (they have a remarkable record for guessing wrong). Should we be forced to dump equipment let's do the dumping in the good old U.S.A. After the war perhaps some 10,000,000 men and women will come back to restart their interrupted lives. Perhaps a good number of these will restart a business that will require air conditioning, refrigeration, trucks, and cars. I for one will welcome losing sales to this group, should the government make these surpluses available to these men on favorable terms, who certainly deserve any break that they can get.

LEWIS S. DOHERTY

# Survey Shows Utilities Will Actively Push Air Conditioning After the War

CHICAGO—Air conditioning will get a big push from utilities after the war, for more utilities are preparing to promote air conditioning as a load builder, and those interested in the past will work even harder for sales, according to a survey of utility executives recently made by "Electric Light and Power."

In addition more utilities will give promotional assistance to electrostatic air cleaning, the germicidal lamp, and attic ventilators, the survey revealed.

## BIG MAJORITY WILL PROMOTE IT

To the general question, "Will your interest in air conditioning business be greater after the war than it was before?" 42 utilities said yes, with only nine stating no increase.

Likewise 40 indicated that they would promote complete electric heating and air conditioning systems if they become available after the war, and nine showed no interest in this development.

Nearly all companies favor a cooling cycle in heating plants, the survey brought out. For homes 46 companies approved and four did not; for commercial buildings it was 47 for and four against.

## PLANS FOR ALL TYPES, INCLUDING WINDOW UNITS

Air conditioning installations for commercial, industrial, office, and residential applications will be backed up by greater promotional efforts of utilities, and that will include window units for office and home, the survey shows, and this may be considered a general trend, according to "Electric Light and Power."

Greater interest in electrostatic air cleaning and the germicidal lamp was also evinced by utilities. Of 39 who answered the question, 11 promoted electrostatic equipment before the war while 28 did not. After the war 28 intend to push the equipment, with only four saying they wouldn't.

Thirty-seven utilities are planning

to promote germicidal lamps in the postwar period, with only three not interested. This is a considerable change from the prewar picture where only 13 promoted these lamps as against 27 who did not.

More promotion of attic ventilation is planned, the survey shows, 44 utilities intending to feature this load builder, compared with 41 before the war. Only two firms, contrasted with six before the war, won't push it in the postwar period. Twenty-six firms, however, expect to increase their promotion of this item, while 16 plan no change.

## BETTER LOAD IS SEEN

Reason for all this increased interest in air conditioning, etc. by utilities is three-fold, according to "Electric Light and Power." Utilities are first seeking means to take up the slack in power load inevitable when war production stops. A second reason is that the load factor of this type of equipment has been improved through developments in the equipment and its wider use. Power factor correction also makes this load look more attractive.

# Expanding Rayon Cord Production Calls For More Big Refrigerating Equipment

FRONT ROYAL, Va.—In the expansion of its rayon producing facilities here to meet the need of additional rayon for tire cords, American Viscose Corp. has purchased four more carrier centrifugal refrigeration machines with a combined capacity of 1,500 tons.

Rayon tire cords, according to official reports, give superior wearing qualities to heavy-duty tires for trucks, buses, and large airplanes. Even more important at this time, the use of rayon cords reduces the amount of rubber which is required per tire.

Critical supplies of natural and synthetic rubber are conserved. The

weight of the tires is cut down, making them easier to ship and handle, and enabling bombers to carry bigger "pay" loads, it is said.

The centrifugal compressors, driven by steam turbines of back pressure type, are used to cool brine. The brine is circulated in the soda, mercerizing, churn mixing, and viscose aging departments where temperature regulation is vital to control chemical processes and produce a standard, high-grade type of rayon tire cord.

American Viscose Corp. is said to have one of the largest batteries of Carrier centrifugal machines in the country.



It's time to tell about

REFRIGERATION'S Hidden Services . . .

## Take COKE for instance . . .

To the uninitiated, refrigeration in a coke plant would seem far from a necessity. But, what most of us do not realize is that the gas taken from coal contains valuable deposits of naphthalene tar, light oil, benzol and ammonia. These can be saved only by cooling the gas before it goes into the distribution mains, or by washing the gas with water cooled to from 60° to 15° F. In fact, the recovery of these and other valuable deposits is one important reason for the existence of our vast coke plants. Here, then, is just one more vital "hidden service" of modern mechanical refrigeration.

A-P DEPENDABLE REFRIGERANT VALVES, of course, are used in this as in all other phases of modern refrigeration.

Their steady, supersensitive, accurate, refrigerant-control efficiency is vital to continued production of coke and its important by-products. And in this industry, too, A-P research is setting the pace with new developments in better controls.

A-P Thermostatic Expansion, Solenoid, Constant Suction Pressure, and Water Regulating Valves — "Trap-Dri" System Protectors, Water Solenoids, Cooling Thermostats . . . stocked and sold by progressive refrigeration jobbers everywhere, and recommended and installed by leading refrigeration service engineers.

## AUTOMATIC PRODUCTS COMPANY

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Export Dept. 13 East 40th St., New York 16, N. Y.



## DEPENDABLE REFRIGERANT VALVES

**FIND HIDDEN REFRIGERANT LOSSES WITH VISOLEAK**

**Save TIME MONEY REFRIGERANT**



## IT'S SIMPLE —

Just place **VISOLEAK** in the high side of the system. This finely-treated colored refrigerant oil will penetrate every nook and cranny and spot those hard-to-find leaks. If refrigerant can leak out, so can **VISOLEAK**. A red stain will mark the leak for your instant repair.

## IT'S SAFE —

Made from the finest oils, it's non-toxic, non-poisonous, non-corrosive and non-inflammable. Can be used safely and effectively with ANY refrigerant.

## IT'S ECONOMICAL —

Wholesale Prices		Save 10% on case lots
4 ounce bottle	\$1.00	48 bottles
8 ounce bottle	1.75	24 bottles
1 pint bottle	3.00	24 bottles
1 quart bottle	5.00	12 bottles
1 gallon can	16.00	6 cans

See your jobber or write for complete information

**WESTERN THERMAL EQUIPMENT COMPANY**

5141 Angeles Vista Blvd., Los Angeles 43, Cal.

Please send me complete details about VISOLEAK.

Name \_\_\_\_\_

Address \_\_\_\_\_

## WPB Orders Dealer Not to Dispose of Refrigerator Stock

JACKSON, Miss.—McKay Plumbing Co., appliance dealership here said by the War Production Board to have acquired 49 new Stewart-Warner refrigerators in violation of Limitation Order L-5-d, has been forbidden from disposing of these refrigerators except as directed by the WPB, according to a suspension order issued recently.

Text of the suspension order follows:

J. P. McKay, G. H. McKay, and Alice R. McKay are partners, doing business as McKay Plumbing Co., in Jackson, Miss. The company deals in various appliances, including refrigerators. In December, 1942, the company purchased and accepted transfer of 49 new domestic mechanical refrigerators in violation of Supplementary Limitation Order L-5-d, which prohibited accepting such transfers. Order L-5-d also required that transfer of new domestic mechanical refrigerators should be made as far as practicable through normal distributive outlets; notwithstanding this, the refrigerators which the company accepted were Stewart-Warner refrigerators, although the company had never been and was not a distributive outlet for Stewart-Warner refrigerators. The company has continued to hold the refrigerators, and has refused and still refuses to transfer them in accordance with the terms of Order L-5-d and as required by the War Production Board. The company was familiar with Order L-5-d, and its failure to comply with it constitutes a wilful violation of the order. In view of the foregoing, it is hereby ordered, that:

§ 1010.542 Suspension Order No. S-542.  
(a) J. P. McKay, G. H. McKay, and Alice R. McKay, individually or as partners, doing business as McKay Plumbing Co., or otherwise, their successors or assigns, shall not sell, lease, trade, deliver, ship, or otherwise transfer, directly or indirectly, any of the 49 new domestic mechanical Stewart-Warner refrigerators acquired and now held by them, or the title to the refrigerators, except as hereafter specifically authorized in writing by the War Production Board.

(b) Nothing contained in this order shall be deemed to relieve J. P. McKay, G. H. McKay, and Alice R. McKay, individually or as partners, doing business as McKay Plumbing Co., or otherwise, their successors or assigns, from any restriction, prohibition or provision contained in any other order or regulation of the War Production Board, except insofar as the same may be inconsistent with the provisions hereof.

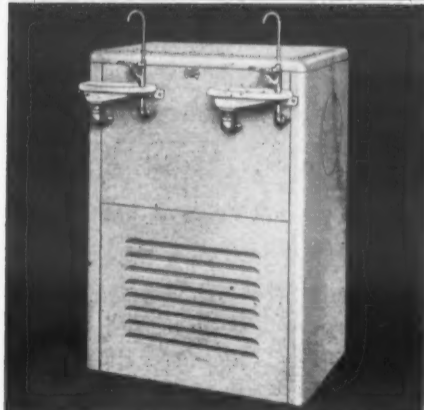
(c) This order shall take effect on May 3, 1944.

## Harold Brayman Directs du Pont Public Relations

WILMINGTON, Del.—Appointment of Harold Brayman to be director of the Public Relations Department has been announced by E. I. du Pont de Nemours and Co. He succeeds the late Theodore G. Joslin, who died suddenly April 12.

Assistant director of the Department since 1942, Mr. Brayman was a Washington correspondent and columnist before joining the company. He entered newspaper work in 1920.

## NOW! COOLERS FOR WAR PLANTS



Now they can be sold! Day and Night glass filter coolers for industrial cafeterias; bubbler coolers for war plants.

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WRITE FOR LATEST DATA  
**COOLER DIVISION**  
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R. H. Spangler, 3331 Market St. - J. E. Parker, 228 2nd St.

## Licenses Sought For Television Stations

EAST PITTSBURGH, Pa.—Application for licenses for three television broadcasting stations, to be built at Philadelphia, at Boston, and at Pittsburgh as soon as critical materials are available, have been filed with the Federal Communications Commission by Westinghouse Radio Stations, Inc., Lee B. Wailes, general manager has announced.

Establishment of television stations in these cities, he said, will entail construction of new studios, transmitters, and other facilities as additions to three of the company's "standard" broadcast outlets—KYW in Philadelphia, KDKA at Pittsburgh, and WBZ at Boston. Two floors of television studios built in 1938 at station KYW await only the release of critical materials for completion.

Mr. Wailes suggested that future televised programs, in addition to those originating at "live" shows in local studios, would include motion pictures and outside events.

## Steel Jackets Okayed For Water Heaters

WASHINGTON, D. C.—Prohibition on the use of metal jackets for water heaters has been relaxed to permit the use of steel in manufacturers' inventories on May 8, 1944, and such steel as may be obtained from frozen, idle, and excess inventories, WPB reported May 8. Because the sheet steel supply is still tight, use of steel from rolling mill supplies is still prohibited for water heater jackets, WPB said.

Previous restrictions prohibited the use of any metal jackets, except for oil fired units, and manufacturers have been making fiberboard jackets as substitutions. Fiberboard is not readily obtainable at present, so the action was taken to aid manufacturers in obtaining sufficient material to produce needed water heater jackets, WPB said.

Jackets are used on water heaters to hold insulation in place and to serve as an outside finish.

## Women To Demand—and Get—Freezers, Air Conditioning, Etc. Say 'Planners'

NEW YORK CITY—Tomorrow's home will be designed for comfortable living and that will include sound-proofing, air conditioning, deep-freezing, electric kitchens, and fluorescent lighting, predict housing experts here.

American women, as housing pioneers, will insist upon these conveniences, declared Glenn Griswold, editor of "Planning," in a recent talk before the Advertising Women of New York, Inc.

"At the turn of the century," said Mr. Griswold, "It was women who insisted on new changes in their houses. They were the ones who had bathrooms built in the house, and women were instrumental in exchanging their gas lamps for electric light fixtures."

Warning the fourth annual Institute of Decorators Club that postwar changes in American homes—"from architecture to refrigerators"—won't

appear immediately after the armistice, Richardson Wright, editor-in-chief of "House and Garden" predicted that tomorrow's houses would be designed primarily in accordance with living habits of the occupants.

Jedd Reisner and Harwell Hamilton Harris, architects, agreed that comfort will be the predominant design feature of the postwar home.

The materials used in house construction need not be "modern" to achieve a modern home, these architects pointed out. The solution, said Mr. Harris, is "to take present materials, and with them construct for each of us a personal world, built of real materials but tailored to each one's own dimensions."

Modern rather than traditional styles for every room in the house are preferred today, according to Miss Mary Davis Gillies, house furnishings editor of "McCall's," who reported results of a recent survey.

# The good old salesmen



## British Promise Aid On Copper Supply

WASHINGTON, D. C.—The Combined Raw Materials Board has issued the following statement concerning the international copper position:

Early this year, the British copper position has eased sufficiently for the United Kingdom to plan reducing its purchases of copper from Northern Rhodesia and other sources of supply. The United States' position, however, has continued to be tight, and this situation has been worsened by the prospective decline in United States copper production because of manpower shortages.

The whole question of copper supplies in 1944 has been under review by the Combined Raw Materials Board and it has been decided that in order to safeguard the Allied nations' copper position, production from all sources should be maintained as far as practicable. Any

production from sources hitherto allocated to the United Kingdom in excess of that country's agreed requirements will be made available in 1944 to the U.S.A., or the U.S.S.R. as may be arranged in agreement with the appropriate authorities of the countries concerned.

## 3 Firms Given New Quotas on Flatirons

WASHINGTON, D. C.—Three more firms, making a total of 12, have been granted permission to produce electric flatirons this year, according to the War Production Board, who announced that 395,000 irons had thus far been authorized for 1944.

The new firms are Westinghouse Electric & Mfg. Co., Mansfield, Ohio, 157,000 irons; Dominion Electrical Mfg. Co., Mansfield, Ohio, 35,000; and New York Pressing Machine Co., New York City, 1,625.

The two Mansfield companies are in a Group 2 labor area, while the New York firm is in a Group 3 area.

## Certain Electronic Equipment Should Not Be Purchased With CMP-9A Rating

WASHINGTON, D. C.—Recent modifications of WPB regulation CMP-9A were pointed out by Radio and Radar Division representatives at a meeting of the Electronic Distributors Industry Advisory Committee, WPB reported today. The amended regulation provides that a repairman may not use the AA-3 rating assigned by CMP-9A to buy certain types of electronic equipment.

These items are made available to repairmen and retailers on a pro-rata basis without the use of ratings, and a repairman does not need a rating to get his fair share, WPB representatives said. The pro-rated radio repair items are capacitors (CMP Code No. 500); microphones and loudspeakers (CMP Code No. 505); resistors (CMP Code No. 506); transformers (CMP Code No. 510); tubes (CMP Code No. 511).

Shipments of radio receiving tubes

to civilian channels in the first quarter of 1944, when production of civilian tubes was scheduled for the first time, totaled more than 4,000,000, the committee was told by WPB officials. This was slightly under scheduled civilian tube production for the quarter, but second quarter shipments probably will be higher as the result of carry-overs of tubes, WPB representatives indicated. Civilian tube production in the first quarter of 1944 approximately equalled the output for civilians in the last quarter of 1943. However, the 1944 production schedule stressed the critical or "hard-to-get" tubes.

An official of the Office of Price Administration discussed with the committee members a proposed new schedule of list prices for tubes for wholesalers and retailers. A representative of Office of Civilian Requirements discussed distribution problems with the committee.

## Electrical Equipment Dealers Ask Surplus Be Sold By Trade

WASHINGTON, D. C.—Suggestions concerning participation of used electrical equipment dealers in the disposition of surplus materials were made to the War Production Board at a recent Industry Advisory Committee meeting.

The Industry Advisory Committee told WPB that used electrical equipment dealers represent a normal trade channel that would be used to advantage in disposing of such items as surplus motors and other electrical equipment from governmental surplus.

The committee pointed out that dealers have facilities with which electrical equipment can be rebuilt or reconditioned, and that they have storage space available in which stocks can be held until such time as they may be disposed of to users.

Users of electrical equipment would probably prefer, committee members said, to buy from established used electrical equipment dealers rather than from a government holder because dealers would guarantee the equipment while the government is not in a position to do this.

Manpower shortages would limit the capacity for reconditioning and rebuilding equipment at the present time, the committee said, but when the manpower problem is solved even this limitation will no longer impede efforts of the industry to help solve the surplus disposal problem.

The committee recommended to the government presiding officer that its position be made clear to the Surplus War Property Administration, pointing out that it would stand ready to help in disposing of surplus electrical equipment.

The committee also discussed price problems that affect its industry's operation and recommended that the Office of Price Administration be consulted in connection with possible price adjustments.

The committee members said that representations should be made to the War Manpower Commission presenting evidence for the need of continuing the present status of motor repairmen engaged in the used electrical equipment dealers industry as essential workers.

## George H. Shill, Andrews' Assistant, Is Dead

BRIDGEPORT, Conn. — George Harrison Shill, assistant to Hardage L. Andrews, vice president in charge of General Electric's Appliance & Merchandise department, died recently in Bridgeport hospital here.

He was long associated with the electrical industry, and was widely known in that field.

## Allen-Bradley Office Moved

CLEVELAND — Branch office of Allen-Bradley Co., Milwaukee manufacturer of electrical controlling apparatus, has been moved to 4506 Prospect Rd. here.

# with the Monitor Tops!

**YES, SIR,** those old General Electric refrigerators are doing a selling job for you!

It's been years since they left your store. But day in, day out they keep right on running as smoothly as the day you installed them.

The folks who bought them have got a lot of satisfaction from those old boxes. And until they can buy new ones those refrigerators will be a constant reminder of your store and the General Electric products you sell!

## They told us so!

Literally hundreds of people have written us about General Electric appliances . . . praising their performance . . . marveling at the extra years they have lasted. As a matter of fact 100% of General Electric refrigerators examined in a recent survey were still

at work, with 92.1% in excellent condition . . . even though 26.2% were ten years old, or older!

And all of these appliance owners thank their lucky stars that they can depend on their General Electric equipment to see them through these difficult war days.

Your repair service came in for praise, too. When some adjustment was required, the General Electric dealer did the work speedily, efficiently, and at a remarkably low cost.

## Fair weather ahead!

The performance of General Electric appliances has made a lot of friends who will be customers again when the war is over. That's why there's a bright future ahead for all of those dealers who sell General Electric appliances. General Electric Appliance and Merchandise Department, Bridgeport, Connecticut.



Everything Electrical for After-Victory Homes

**GENERAL ELECTRIC**

Bridgeport, Conn.

## FOR VICTORY

Today, General Electric is working full speed to hasten the day of victory.

You can help, too, by buying War Bonds now.

## MASTERCRAFT ADJUSTABLE PAD AND CARRYING HARNESS

*Endorsed by thousands!*

Used and endorsed by thousands of refrigerator dealers in the United States and Canada.

Pad is adjustable to all makes and sizes of refrigerator cabinets; thoroughly protects finish of cabinet from scratches and marks during moving; easily and quickly put on or off; sturdy, lasting construction; easily pays for itself in a short time. Price \$11.75 each.

Attractive lettering of your name on pad at \$2.00 each extra. Harness is a separate unit from the pad, is adjustable, and provides a simple and convenient arrangement for carrying your refrigerator more safely and easily. Price \$8.50 each.

Write for complete folder and prices on pads for refrigerators, washers, ironers, ranges, radios; also furniture pads and protective covers. . . . All prices subject to change without notice.

**BEARSE MANUFACTURING CO.**

3815-3825 Cortland Street, Chicago 47, Illinois

**G-E Promotes Eveleth**

NEW YORK CITY—George E. Eveleth, assistant to the president of International General Electric Co., was recently elected a vice president of the company.

Mr. Eveleth, who has been with the company since 1920 in China and Europe, is also a vice president and director of Anderson Mayer & Co. and a director of other foreign affiliates of International G-E.

**Wallfred to Head Ansul's Pilot Plant Dept.**

MARINETTE, Wis.—Carl L. Wallfred, former metallurgist at the Batelle Institute, Columbus, Ohio, has been appointed manager of the pilot plant department of Ansul Chemical Co. here.

Mr. Wallfred is a graduate chemical engineer of the University of Minnesota.

**Data Being Sought On Surplus Space In Cold Storages**

LA CROSSE, Wis.—Under a new arrangement established through joint action with the refrigerated warehouse industry, 54 state and area offices of the War Food Administration in the 11-state midwest region will collect and disseminate information regarding "surplus" cooler and freezer warehouse space available for storage of vital food supplies, it was announced recently by Ralph P. Monroe, area supervisor of the WFA office of distribution.

He explained that this new service will facilitate operation of war food orders 70 and 90 to utilize fully all possible refrigerated storage space to save for use the most important foods now reaching seasonally high production, such as eggs, for example.

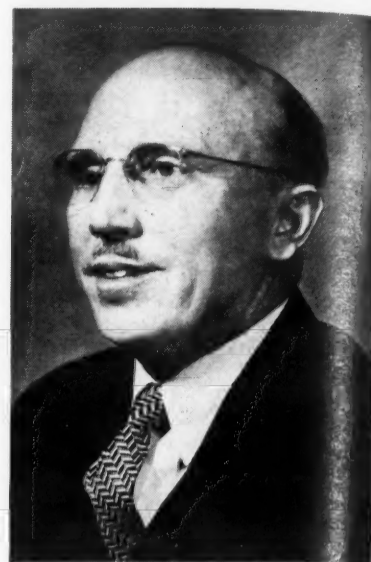
Operators of refrigerated storage facilities in the midwest area have been asked to report to the WFA their amount of surplus space whenever they have such space available and to report again when such space is filled. In addition, these reports will name the commodities for which the space is suitable.

Under this method warehousemen will refer any customers whom they cannot accommodate to their area WFA office, and these customers will, in turn be advised of other available storage space, Monroe stated.

To locate available space in the line of movement of eligible perishable foods and to help prevent the piling up of these commodities in terminal markets, midwest area reports will be tabulated daily in the WFA Chicago regional office.

In this way, Monroe declared, this urgently needed "extra" space in private warehouses for short-term holdings, as well as in breweries, renovated ice rooms, and fruit warehouses will be located to fill partially the present need for more refrigerated storage space.

State and area WFA offices will serve only as information centers, he added.

**Direct Sales Activities of Servel Division**

These three men were recently named to direct various divisions of the sales activities of the Electric Refrigeration Division of Servel, Inc. They are (upper left) Harry F. Bell; (upper right) W. J. Aulsebrook; and (lower right) Carl L. Olin.

**Truesdell In Crosley Executive Post**

CINCINNATI, Ohio—Appointment of Leonard C. Truesdell as assistant commercial manager, manufacturing division, the Crosley Corp., has just been announced by J. H. Rasmussen, Crosley commercial manager.

For the past 20 years, Mr. Truesdell has been associated with various phases of merchandising, principally in the appliance field. He is widely acquainted with major dealers in utility, department store, furniture store and household appliance store circles, from coast to coast.

He served successively as sales promotion manager and as refrigerator sales manager for the Sterling



LEONARD C. TRUESDELL

Radio Corp. in Kansas City, Mo. and later operated his own retail appliance business through three stores.

He joined the Frigidaire division of General Motors Corp. in 1933 as sales manager in its Kansas City branch.

**George Conover New Vice President of Philadelphia Electric**

PHILADELPHIA—George R. Conover was elected vice-president in charge of personnel and public relations of the Philadelphia Electric Co. at a meeting of the Board of Directors held April 25.

Mr. Conover, a registered electrical engineer, spent 10 years with the Public Service Electric and Gas Co. of New Jersey before coming to this city in 1929 to become managing director of the Electrical Association of Philadelphia. The membership and activities of the association rapidly increased under his leadership until it embraced a cross-section of the entire electrical industry in Bucks, Chester, Delaware, Montgomery, and Philadelphia counties.

He inaugurated and successfully managed for the association a number of electrical expositions for the purpose of presenting to the public the newest thoughts and applications of electricity to industry and homes.

He remained with the Electrical Association until April 1, 1939, when he was made manager of public relations of the Philadelphia Electric Co.

**POLARTRON**  
PRESSURE AND TEMPERATURE CONTROLS  
Extra features equivalent to 32 or more Special models are STANDARD in every M-H Polartron.  
MINNEAPOLIS-HONEYWELL REGULATOR CO.  
Refrigeration Controls and Control Systems

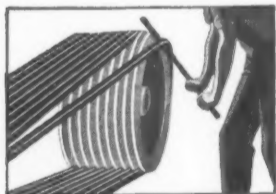
THE ANSWER TO EVERY SERVICE MAN'S PROBLEM OF MOISTURE IS  
**ANSUL**  
**ICE-X**  
ICE-X quickly cures emergency freeze ups when ice forms at the expansion valve or capillary tube. Harmless to use. Great for Freon, Carrene, or Methyl Chloride systems... The dependable liquid anti-freeze.

ORDER FROM YOUR JOBBER OR—  
EXCLUSIVE NATIONAL DISTRIBUTOR  
**THE HARRY ALTER CO.** 1728 S. MICHIGAN AVE. CHICAGO 16, ILLINOIS  
JOBBER: WRITE FOR SPECIAL PROPOSITION!

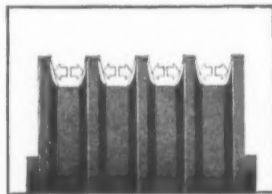
# How to Lengthen V-Belt Life—

## ON ALL REFRIGERATION AND AIR-CONDITIONING SYSTEMS

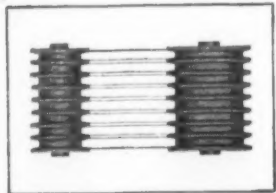
You never need to "baby" your tough, firm-gripping Dayton V-Belts, but if you will give them just reasonable care you can add months and years to their remarkably long lives. With the vast increase in the use of Dayton V-Belt Drives for compressors and fans in commercial, industrial and military service, proper maintenance becomes more than ever a patriotic duty. Here are 9 helpful hints:



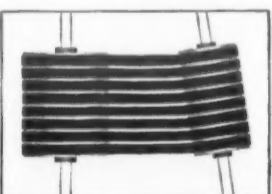
1. When installing, don't pry V-Belts over pulley grooves—instead, slide motor forward and drop belts over the pulleys. Then move motor back until the proper tension is obtained.



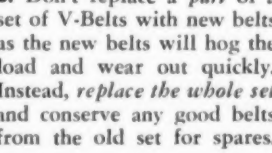
2. When the proper tension is reached, belts have "live springy vibration." When too much slack exists, belts feel dead when struck by hand.



3. Check and line up pulleys, groove for groove, and in parallel. Misalignment wears both belts and pulley grooves excessively.

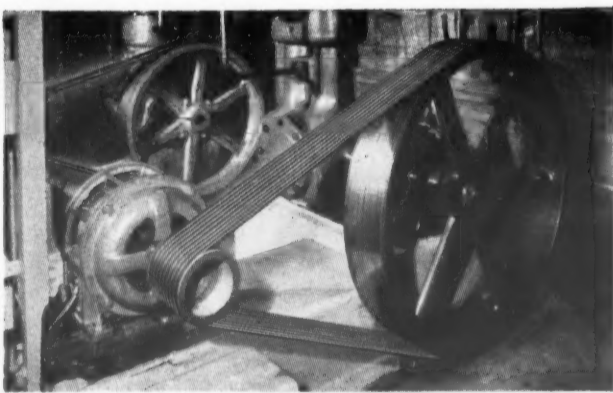


4. Check both shafts for parallel alignment so each belt can pull its share of the load.



5. Check and replace worn pulleys—they wear out belts prematurely.

6. Don't replace a part of a set of V-Belts with new belts as the new belts will hog the load and wear out quickly. Instead, replace the whole set and conserve any good belts from the old set for spares.



8. Don't hang V-Belts on nails, hooks or across boards or other objects which might cause them to bend sharply.

9. Belts not in use should be stored in a cool, dry place away from direct sunlight and

high temperatures.

You are invited to call on your nearest Dayton Distributor for helpful suggestions or service. He will gladly help you with your V-Belt problems.

THE DAYTON RUBBER MFG. CO., DAYTON 1, OHIO  
Co-Operators of a Government Synthetic Rubber Plant  
DAYTON RUBBER EXPORT CORPORATION  
38 Pearl Street, New York, N. Y., U. S. A. Cable Address: WIDBLOCO

V-Belts by  
**Dayton Rubber**  
The Mark of Technical Excellence in Synthetic Rubber

WRITE FOR  
FREE WALL CHART

**REFRIGERATION**  
**Copper TUBING**  
SUPERIOR brand copper tubing for refrigeration is dry annealed, dehydrated, bright as gold and smooth as glass inside and outside. It bends easily—has uniform wall thickness. It is made to A. S. T. M. Specifications B68-33 in exact 50 and 100 ft. coils—machine wrapped in moisture-proof crepe paper—ends closed and sealed. All sizes stocked.

**PENN BRASS & COPPER CO., INC.**  
ERIE, PA., U. S. A.

## 2 New Water Coolers Added to Ebco Line

COLUMBUS, Ohio—Two new "Oasis" drinking water coolers, one a double capacity glass filler model designed for cafeterias, restaurants, and mess halls, have been introduced by Ebco Mfg. Co. here.

The cafeteria unit, model RC-20, is powered by a 3/4-hp. Ebco open-type reciprocating twin-cylinder compressor, and is said to supply more than 20 gallons of 50° F. water per hour with incoming water at 90° and room temperature at 100° F. Equipped with two self-closing glass fillers, this unit also has an auxiliary connection for remote bubbler use. Storage capacity is more than 10 gallons.

Cabinet of the cafeteria model is 23 in. wide, 24 in. deep, and 42 in. high. It is finished in white lacquer over baked enamel primer with a black base.

The new single bubbler model, VLP-10B, is rated at more than 10 gallons of 50° F. water per hour with 90° tap water and 100° F. ambient temperature. A removable plastic cover cap provides for quick field installation of glass filler on rear left corner of cooler top. There is also an auxiliary connection for remote bubbler installation.

Cabinet, finished in autumn brown lacquer, is 17 x 17 x 40 in. The cooler is powered by a 1/4-hp. open-type reciprocating Ebco compressor.

## Replacement Valve Plates Introduced by Chicago

CHICAGO—New line of replacement valve plates for use on all makes of refrigerators has been introduced by Chicago Seal Co. here. These plates incorporate removable valve seats, making it possible to re-



place only worn parts instead of complete units, it is claimed.

The units can be taken apart by removing the screws and pulling the seat out with the fingers. Valve seats are firmly held in position by a retainer bar which is secured to the plate, the company says. Plates are said to be available in all sizes for exact replacements on all popular refrigerators.

## Portable Ultra-Violet Tube Announced by Pasteuray

ST. LOUIS—An ultra-violet ray tube which can be readily installed and moved has been introduced by the Pasteuray Co. here for installation in meat and vegetable coolers.

Said to kill bacteria instantly, the electronic tube is mounted in a fixture equipped with hooks at each end. One merely plugs the cord into a standard 110-volt a.c. line and hangs the lamp vertically or horizontally as desired, the company says.

## Schlumbohm Markets Bottle Cooling Device

NEW YORK CITY—Designed to effect rapid cooling of quart bottles of liquid through the use of salt and ice cube mixtures, an insulated glass tank known as the "Fahrenheit" has been marketed by the inventor, Dr. Peter Schlumbohm, here.

A quart bottle of liquid can be reduced from 82° F. to 35° F. in only 15 minutes, claims the inventor, by placing a trayful of crushed ice, 12 ounces of freezer salt, and water in the device and then moving the bottle up and down slightly to pump the brine mixture over the bottle.

The device consists of a handblown 1 gal. glass tank 13 inches deep. Diameter of the lower half gallon is just large enough to accommodate a quart bottle, and this section is insulated with 9 x 1 in. cork jacket. A cork ring also protects the top rim of the tank.

## Hasco's 1944 Catalog of Replacements Issued

GREENSBORO, N. C.—New 16-page 1944 catalog listing refrigeration replacement parts "for all makes of compressors" is being distributed to jobbers by Hasco, Inc., parts manufacturer here.

Wide variety of compressor parts is listed in the new catalog, ranging from reed valves to compressor bases. More than three pages are devoted to listings and illustrations of suction and discharge valve reeds, in addition to three pages showing rebuilt valve plate assemblies.

Considerable space is also allotted to pistons, connecting rods, piston rings, eccentrics, and crankshafts for several makes. Float valves and needles are listed as well as numerous miscellaneous parts, including electrical items, and tools.

Rebuilding of household evaporators (except porcelain) is featured, and the back cover of the catalog is devoted to rechargeable "wet cell" flashlight batteries and battery charging equipment.

**NEW 1944 CATALOG**

**REFRIGERATION**

*Units, Parts and Supplies*

**ELECTRIC MOTOR PARTS**

PHONE MELROSE PARK 810-811

**SERVICE PARTS CO.**

WHOLESALE ONLY

2511 LAKE STREET

MELROSE PARK, ILLINOIS

CATALOG NO. 44

1944

*Write for copy on your letterhead*

Washing Machine Parts Catalog will not be issued in 1944

**SERVICE PARTS CO.**

2511 Lake St. Melrose Park, Ill.

## S-W May Design Gas Heater for Home Use

CHICAGO — If Stewart-Warner Corp. can adapt its gasoline-burning heater for automobiles and airplanes to use another fuel, if noise of operation can be reduced, and if "long and relatively care-free life" can be engineered into the unit, the company may produce these units to heat postwar homes, declared Lynn A. Williams, Jr., vice president in charge of the S-W heater division, at a press conference here recently.

On demonstration at the press preview was a 21-pound gasoline furnace of a type now used in military aircraft, which, it is claimed, has enough heat capacity for a 20-room house.

One method of applying this type of heater to the home would be the installation of several very small heaters, one for each room, said Mr. Williams in discussing future possibilities for the unit.

"For example, it is possible to make a heater eight inches in diameter and nine inches high, having its own fan and blower all complete as one unit, and capable of heating one room of a house," he explained. "Each heater can be provided with its own room thermostat, so that each room can be kept at the most desirable temperature."

"If such a heater were also of a type which might be used in an automobile, then the mass production of that market would make possible a cost low enough to permit Stewart-Warner's supplying heating equip-

About the third time you look at this picture you may be able to discern Stewart-Warner's gasoline burning heater used by the Army and Navy for anti-icing purposes on large aircraft. The company is considering trying to adapt this type of heater for home use through reducing noise of operation and redesigning for a fuel other than gasoline.



ment for a house at a price, assuming general pre-war price levels, of \$20 to \$30 a room, including a thermostat. I do not know that this can be done, but I do not yet know of any reason why it cannot be done," he added.

Another possible use of this principle of heating suggested by Mr. Williams was that of installing a heater similar to the 200,000 B.t.u.

model in the attic of a home, hanging it from the rafters. If the roof were insulated, the entire attic space could be filled with hot air from the heater under sufficient pressure to force the air down through ducts or walls to all rooms.

"A heater of this size would be sufficient in most climates for an ordinary 10-room house," averred Mr. Williams.

**You make a real profit...**

**when you Sell Servel\***

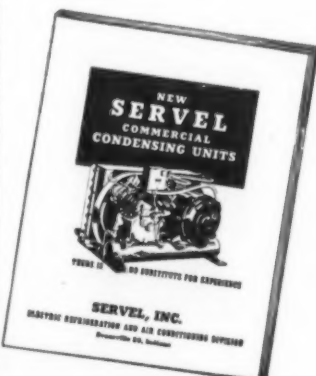
**Liberal discounts**—that allow adequate margins for selling, engineering, and service—assure you of a worth-while profit every time you sell a Servel Condensing Unit. And you don't have to worry about "loss-leader" competition cutting into these profits. Servel products are sold only through regularly franchised accounts serving specific trading areas, and through responsible private brand manufacturers.

What's more, you can reap these profits the year round, because a wide selection of allied products is available through fixture manufacturers using Servel Condensing Units.

And remember—it costs less to sell Servel. Twenty years of successful sales and installation have built nation-wide acceptance for Servel products, made the name Servel a "door-opener" that speeds sales, boosts your profits.

Remember, too, Servel will back up your sales effort with its own experts in sales, engineering, and advertising. Experienced men are available to help plan sales programs, find and develop profitable leads, locate hard-to-find equipment, and supply sales-pulling promotional helps.

For full information about the opportunities for a Servel franchise in your territory, write today to Servel, Inc., Evansville 20, Indiana.



\*Servel condensing units serve dealers and fixture manufacturers in every vital field

Servel's new 1944 catalog will be mailed to all customers this month. It gives full specifications on all current Servel condensing units, and useful short-cut methods for selecting proper sizes.

**SERVEL, Inc.**

ELECTRIC REFRIGERATION AND AIR CONDITIONING DIVISION

Evansville 20, Ind.

**EASILY BENT**

**REFRIGERATION TUBING**

"Superior" Copper Tubing has uniform wall thickness—all sizes stocked in exact 50 ft. or 100 ft. coils.

**PENN BRASS & COPPER CO., INC.**

ERIE, PA., U. S. A.

# Methods of Compensating Salesmen In a Parts Jobbing Operation

By Theodore I. Glou, Central Service Supply Co., Syracuse

The relation between the credit policies of a firm and salesmen's compensation is self-evident. The more sales, the larger the remuneration. Yet, all sales must be final, and I use final in the sense that payment will be made for the merchandise when due.

The more charge backs to a salesman's account, the higher the cost of doing business. It is of great importance that the salesmen have the utmost confidence in the credit manager's decision as to who is to receive credit and who is not.

It is not difficult to convince a salesman that his earnings will suffer if he must spend a large portion of his time trying to collect accounts before he can start to sell merchandise. Therefore, all credit policies must be adhered to. I have yet to see the salesman whose sales efforts did not suffer when commissions were deducted for returns or bad debts.

## IMPORTANCE OF A BUDGET

Before setting up a system or plan of compensation, I feel it is necessary to budget all expenses. In a new business it will be necessary to examine sample budgets for various types of operations to set up a tentative budget. These can be obtained from any good book on business practices. In an established business it is only necessary to refer

to your figures of the preceding year, in order to obtain a budget that can be adhered to.

The amount allocated for sales expense should be as large as you can possibly make it. I feel there is nothing so inexpensive as a well paid salesman. The method of payment can be varied as needed, in different ways which will be discussed later.

The budget must be explained to all key members of an organization for the simple reason that all profits and all expenses are based on conducting the business on definite sales and credit policies. Inasmuch as the gross profit is based on doing business at established resale prices, the salesmen must be discouraged from bringing in low profit sales or special deals.

There are probably as many different ways of compensating salesmen as there are different firms. The simpler the plan, the easier it will work. Most of you received a questionnaire on "How Do You Compensate Your Salesmen." When I made the statement that there are as many different ways of compensating salesmen as there are different firms I was just about 100% correct.

Forty-three members returned their questionnaires filled out, and there were hardly any two that were exactly alike in form. Almost every questionnaire had some slight differences. Before discussing the re-

sults of these questionnaires, let us examine the objectives that your sales plan is desirous of reaching.

## WHAT TO CONSIDER BEFORE DECIDING ON A PLAN

Several things must be considered before deciding on a sales plan or a plan of salesman's compensation. Are you going to control the activities of the salesman as to how much time he is to spend on sales, how much on education work, and how much time he is to spend on other activities not of a direct sales nature? What incentives do you have for the salesman in the sales plan?

Basically all salesmen like to know just what income they are going to receive each week or month, so that they can budget their family expenses. A salary basis solves this problem completely, and if you are going to control the salesman's activities considerably, this plan is the most advantageous. However, this plan has its defects in that it offers no inducement for extra effort.

The commission plan, while more lucrative for the salesman, usually does not give you as much control over the activities of the salesman, but does offer all incentives for increased efforts. The matter of security for the salesman can be handled by giving him a fixed weekly or monthly drawing account against his commissions, so that he may budget

This is the second instalment of a two-part report of the paper "Sound Business and Credit Tactics for a Refrigeration Parts Jobber and Methods of Compensating Salesmen," read before the recent convention of the National Refrigeration Supply Jobbers Association by Theodore I. "Ted" Glou, who operates the Central Service Supply Co. of Syracuse, N. Y. and Scranton, Pa.

This part covers methods of compensating salesmen and part of the material is based upon a survey made among jobbers. Mr. Glou also presents a frank and informative discussion of his own methods of compensating salesmen.

his expenses for himself and family the same as if on a salary basis. If your company is well established and you are not interested in controlling the salesman's activities, there is no doubt that this is a better plan to operate under.

It is almost impossible to devise one plan that is suitable for every business operation. Each business must be analyzed to find out just what you desire to accomplish and then make this plan a simple one, so that your salesman understands it. By making it simple you can keep your cost of operating the plan to a minimum.

## ADVANTAGES & DISADVANTAGES OF SALARY VS. COMMISSION

Let us put down the advantages and disadvantages of both of these plans.

### Advantages of a Salary Plan

This plan gives you the control over the salesman's time.

This plan lets you control the direction of his efforts.

It lets you control the territory he is to work in.

It lets you control the reports he is to make.

### Disadvantages of This Plan

This plan has no incentive to increase the volume.

In boom times he does not have the advantage of higher income.

There is always the matter of when does the salary increase.

### Advantages of Commission Plan

It provides the greatest financial incentive.

Selling expenses are reduced as volume declines.

### Disadvantages

Less control over the activities.

It is likely to oversell a customer. It is likely to cause promotion of long discount terms.

The addition of a bonus or share in the profits changes both of these plans and the results in each case are obvious.

With the above thoughts in mind, you can now start to develop your compensation plan.

## SURVEY REVEALS VARIOUS TYPES OF COMPENSATION

Now let us get back to the questionnaires which some of you filled out. I have grouped these into as closely related divisions as possible. I have no way of knowing who sent any particular questionnaire. I mention this because I want all criticisms to be of a constructive nature and when I refer to a report by number it is merely for identification in reference to this discussion.

### Group No. 1—Commission Only

In this group six firms reported with commission rates running from 3 to 6% or an average of 5½% and drawings against these commissions of \$180 to \$300 per month.

### Group No. 2—Salary Only

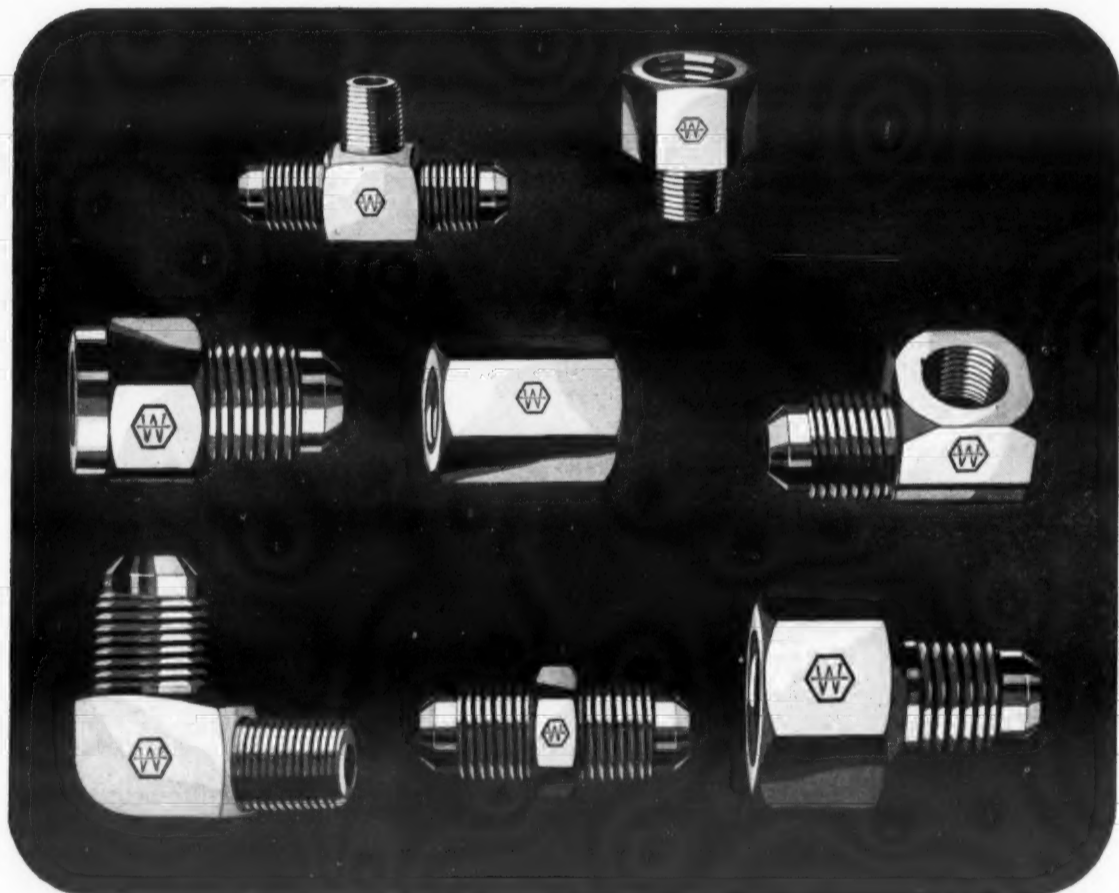
In this group 15 members reported with rates running from \$142 to \$300 per month, or an average of \$225 monthly.

### Group No. 3—Salary and

#### Commission or Salary and Bonus

In this group 13 members reported with salaries from \$35 a week to \$88 a week plus commissions of from 2% to 5% and in one instance as much as 20%. It is interesting to note that in all of these groups that where the higher base salary existed, a higher rate of commission was allowed in addition to the salary; and

(Concluded on Page 19, Column 1)



## Flare fittings for the refrigeration industry!

Flare-type fittings, because of their widespread use and standardization of design, are used extensively in all types of commercial and domestic refrigeration units. Weatherhead flare fittings are particularly easy to assemble since they feature sharp, clean threads and oversize wrench pads that make possible easy installation and use in tight corners. Like all Weatherhead fittings they come in a wide variety of types and sizes—brass, and steel.

Look Ahead with

## Weatherhead

THE WEATHERHEAD COMPANY  
CLEVELAND, OHIO

Manufacturers of vital parts for the automotive, aviation, refrigeration and other key industries.  
Plants: Cleveland, Columbia City, Ind., Los Angeles  
Canada—St. Thomas, Ontario

FREE: Write for our attractive 38-page fully illustrated Weatherhead Refrigeration Catalog.



## SERVICE NEWS

WAR-TIME NEWS LETTER

Dear Sir:

The usual Spring increase in Methyl Chloride requirements is under way. Methyl Chloride supplies are adequate to take care of refrigeration needs . . . but slow return of cylinders is still a prime cause of shipping delays.

To speed up shipments, we will need every available cylinder. Refrigeration men can help by returning promptly to source of supply all empty cylinders.

Don't keep around a number of partly filled cylinders, particularly those containing only a few pounds of Methyl Chloride. Whenever possible transfer small amounts left in large cylinders to smaller containers . . . or partly empty cylinders . . . and return as many empties as you can. This will help keep cylinders moving.

We expect . . . and are making plans to meet it . . . a heavier demand for Methyl Chloride throughout the year. More refrigerant is needed for conversion . . . and to keep present units in operation.

Last year, we were able to give reasonably good service - thanks to your fine cooperation. This year we are going to need your help more than ever because your refrigerant needs . . . and the other fellow's . . . are so much greater.

Here's another way in which you can help. You can help yourself and the other refrigeration men. Look over your stock of full cylinders. If you have more than you need . . . please tell your source of supply about the surplus, so that it can be used if necessary to take care of any emergency needs.

And don't forget, order only what you need . . . use it up promptly and return empty cylinders immediately.

Very truly yours,  
  
 THOMAS COYLE  
 Manager, Chlorine Products Division

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

## Methods of Compensating Salesmen Used by Parts Jobbing Concerns

(Concluded from Page 18, Column 5)  
usually on those reports with small salaries the rate of commission or bonus was quite small.

### COMMISSION AND BONUS PLAN USED BY SOME

**Group No. 4—Commission and Bonus**  
In this group two members reported both paid a commission rate of 5% up to certain volumes and then the commission rate became slightly lower. Case 1 paid a bonus of 10% of the net profits to the salesman and 5% to the counter man. Case 2 paid 15% of the net profits divided among the employees according to their length of employ and earnings. In only two cases of the above total will any salesman have gross earnings of \$5,000 yearly.

The volume of business of the refrigeration department was not requested on the questionnaire and, therefore, it was impossible for me to determine an average rate of compensation. But the evidence of these questionnaires or reports bears out my statement that you cannot pay a salesman too much. The cases in which the highest salaries or highest methods of compensation had the highest quotas which should indicate that the dollar volume of these firms was high.

### DIFFICULT TO UNDERSTAND REASONS FOR METHODS

**Group No. 5—**This group contained seven miscellaneous replies which I am going to discuss or mention by case number.

**Case No. 16—**This member reported, "We do not have outside salesmen. We do our own selling both in the store and on the road. It is all in the family." Gentlemen, sales costs are to be computed whether you do them yourself or have someone else do the selling.

**Case No. 20—**This case reported they did not hire salesmen. It would be interesting to know what volume and net profit resulted for this member in comparison to those members who did employ salesmen in comparable territories.

**Case No. 41—**This member reported that he had no salesmen, but

if his business justified one, he would pay one a salary amounting to approximately \$250 a month and then pay a bonus of approximately 30% after the sales had reached \$30,000. Gentlemen, I will not figure this one, I will let you do the figuring on this.

**Case No. 17—**This case was unique in that they figured a different commission for each line. How much more advantageous it would be for this company to pay a flat commission or salary instead of hiring a clerk to figure sliding commission scales is self-explanatory.

**Case No. 18—**This company had the refrigeration men sell other lines and, therefore, the figures they might furnish would be of no value.

**Case No. 15—**This company reported that their catalog is their salesman. The only comment regarding this case would be to know how much their catalog cost both from the standpoint of the amount of time and actual cost of the catalog itself. Certainly this catalog is a sales expense regardless of the category that this company might want to place it in.

### EXPLAINS DETAILS OF HIS OWN METHOD

I do not know what returns on your net investment or net profit these different plans resulted in. The only one I can discuss authoritatively is our own plan.

We pay our men a commission on all business obtained by their branch. This commission is based on doing a fixed amount of business. If this quota is reached, a predetermined amount of profit will result.

In addition to the commission the salesman participates in the profit of the branch. As the sales go up the cost of business goes down so that after passing the quota the profit goes up and the greater become the salesman's earnings.

Our head counter man also participates in a share of the profits. This has the effect of making salesmen of counter clerks. This year our budget and the quota set provide for our salesmen receiving approximately 10% of the net profits and the head counter man 5% in addition to their

regular compensation. Even with these seemingly large shares in our business, if their quotas are reached, we will net more.

Our rate of direct compensation is a fixed drawing against commissions. The rate of commission is as follows:

5% on the first \$100,000 of business.

4% on the second \$100,000.

3% on all over \$200,000.

At any time a salesman is permitted to draw up to 95% of commissions due. The other 5% is withheld to offset returns of merchandise, but all commissions are paid in full at the end of the fiscal year.

### THERE ARE REASONS FOR PAYING ALL POSSIBLE

I have been told that this rate of compensation is quite high, but I believe that you cannot pay a salesman too well. A well paid employee makes a better worker and a better citizen. In most cases the salesman is the only contact of a personal nature that a firm has with its customers, and to this extent he leaves all impressions of your firm with your clients. A firm with good impressions is a lucky one.

## At Conventions Now, Scenes Like This Help To Spur Rumors

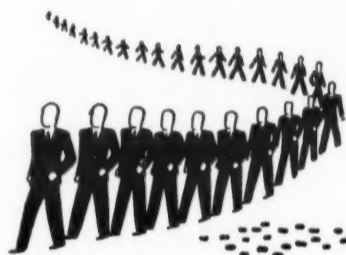


During the recent conventions of the refrigeration equipment manufacturers and parts jobbers in Chicago the air was full of rumors about postwar shifts, developments, and deals of all kinds, and it was table groups like this that gave credence to some of the rumors. From left to right are Clark Bridgman of Bush Mfg. Co., K. B. "Spike" Thorndike of Detroit Lubricator Co., Russ Ayres of the Coolerator Co., and Marc Shantz, manufacturers' agent handling a middle west area. Bridgman, Thorndike, and Shantz sell parts and equipment that go into complete refrigerators. Russ Ayres is a well-known engineer who has specialized in household refrigerators, and who joined Coolerator Co., leading manufacturer of ice refrigerators, earlier this year. The rumor? That Coolerator is contemplating the manufacture of mechanical refrigeration equipment, or possibly combination ice-and-mechanical units.

## Meet the GRUNOW FAMILY

Here is an introduction to the Grunow Parts Distributors—all members of the large Grunow Family, and the life-blood of Grunow Authorized Service, Inc.

On them rests the extent and quality of Grunow service. Through them, all Grunow parts are bought and sold. To them goes all credit for the successful service of Grunow equipment during these difficult times.



Abilene, Texas.....Refrigeration Supply & Electric  
Albany, N. Y.....Albany Refrigerator Company  
Albany, N. Y.....Russo Appliance Company  
Allentown, Pa.....Larson Supply Company  
Altoona, Pa.....Electric Appliance Distributors  
Beckley, W. Va.....Lewis Furniture  
Billings, Mont.....Kelley-How-Thomson Company  
Binghamton, N. Y.....East End Radio & Refr. Service  
Birmingham, N. Y.....Morris Distributing Co., Inc.  
Birmingham, Ala.....E. E. Forbes & Sons Piano Co.  
Bluefield, W. Va.....Warlick Furniture Store, Inc.  
Boise, Idaho.....Starkey Electric Service  
Buffalo, N. Y.....C. Kurtzmann & Company  
Cambridge, Md.....Herbert Hearn Hardware Co.  
Charleston, W. Va.....McKee's, Inc.  
Cincinnati, Ohio.....The Merkel Bros. Company  
Cincinnati, Ohio.....Rash-Saville-Crawford, Inc.  
Cleveland, Ohio.....Federal Appliance Service  
Columbia, S. C.....R. E. Mehman, Inc.  
Columbus, Ohio.....The Pixley Electric Supply Co.  
Dayton, Ohio.....Allied Parts Company  
Davenport, Iowa.....Midwest Timmermann Company  
Denver, Colo.....McCombs Refrigeration Supply Co.  
Denver, Colo.....Meier Refrigeration Service  
Des Moines, Iowa.....Dennis Refrigeration Supply  
Des Moines, Iowa.....Shontz Refrigeration Service  
Detroit, Mich.....Mercier & Clark, Inc.  
Duluth, Minn.....Kelley-How-Thomson Company  
El Paso, Texas.....Car Parts Depot, Inc.  
Flint, Mich.....Lifsey Distributing Company  
Flint, Mich.....Refrigeration Supply Company  
Fort Worth, Texas.....Authorized Grunow Parts Co.  
Grand Rapids, Mich.....Republic Distributing Co.  
Harrisburg, Pa.....Refrigeration Supply Company  
Hartford, Conn.....Stern & Company  
Houston, Texas.....Lane Refrigeration  
Huntington, W. Va.....A. W. Albertsen  
Huntington, W. Va.....Lewis Furniture Company  
Indianapolis, Ind.....A. A. A. Refrigeration Service Co.  
Jacksonville, Fla.....Glover Weiss Company  
Jamaica, N. Y.....Jamaica Refrigeration Service Corp.  
Kansas City, Mo.....Refrigeration Equipment Co.  
Knoxville, Tenn.....Leinart Engineering Co.  
LaCrosse, Wisconsin.....Fiedler's Refrigeration Service  
Lansing, Michigan.....F. N. Arbaugh Company  
Logan, W. Va.....Lewis Furniture Company  
Los Angeles, Calif.....Electric Refr. Parts & Service Co.  
Louisville, Kentucky.....Peaslee Gaulbert Corporation  
Madison, Wis.....Appliance Service Company  
Madison, Wis.....Ridge Madison Company

Memphis, Tenn.....Stratton Warren Hardware Co.  
Miami, Fla.....Ace Radio & Refrigeration  
Milwaukee, Wis.....Service Radio & Appliance Co.  
Minneapolis, Minn.....Vincent Brass & Copper Co.  
Nashville, Tenn.....Nashville Chair Company  
Newark, N. J.....Grunow Refrigeration Service N. J.  
Newport, Ky.....Kentucky Refrigeration Service  
Newtonville, Mass.....Newtonville Electric Company  
Norfolk, Va.....Bridger Radio Company  
North Platte, Neb.....Kunkel Auto Supply Company  
Oklahoma City, Okla.....Hughes Bozarth Anderson Co.  
Omaha, Neb.....Ruegg Refrigeration Supply  
Omaha, Neb.....Sidles Company  
Parma, Ohio.....Hollenbeck Refrigeration Co.  
Philadelphia, Pa.....Economy Refr. & Appliance Service  
Philadelphia, Pa.....Quality Appliance Company  
Phoenix, Arizona.....Lawson Refrigerator Co.  
Pittsburgh, Pa.....Aircraft Service Company  
Portland, Oregon.....Repp & Son  
Racine, Wis.....White Brothers  
Richmond, Va.....Refrigeration Supply Co.  
Rochester, N. Y.....Robot Electric Company  
Rochester, N. Y.....Kemp Equipment Company  
Rockford, Ill.....Wilson Electric Company  
Rockford, Ill.....Hedrick Electric Company  
St. Louis, Mo.....City Refrigeration Service  
St. Louis, Mo.....Show Boat Radio & Refrigerator Co.  
St. Paul, Minn.....Kelley-How-Thomson Company  
St. Paul, Minn.....Palen Refrigeration Service Co.  
St. Paul, Minn.....Thermal Company, Inc.  
Sacramento, Calif.....Hinshaw Supply Company  
Saginaw, Mich.....J. Geo. Fischer & Sons  
Salt Lake City, Utah.....Strevell Paterson Hardware Co.  
San Antonio, Texas.....United Refrigeration Company  
San Francisco, Calif.....Pacific Metals Co., Ltd.  
San Francisco, Calif.....Cal. Refrigerator Company  
Seattle, Wash.....Davison Service Company  
Shreveport, La.....Refrigeration Sales, Inc.  
Sioux City, Iowa.....Dennis Refrigeration Supply  
South Bend, Ind.....The Ridge Company  
Springfield, Mo.....Martin Bros. Piano Co.  
Springfield, Ohio.....G. W. Perrine  
Syracuse, N. Y.....Morris Distributing Co., Inc.  
Toledo, Ohio.....Plattner Electric Company  
Trenton, N. J.....Quinty's Electric Service  
Welch, W. Va.....Lewis Furniture Company  
Wichita, Kansas.....Basham Appliance Company  
Williamson, W. Va.....Lewis Furniture Company  
Wilmington, Del.....Keil Motor Company  
Worcester, Mass.....Whittemore Bros.

### DAVISON'S SILICA GEL SETS THE STANDARD FOR DRYING AGENT PERFORMANCE--No. 1

**Instant ACTION**



**PROCESSED ESPECIALLY FOR THE DEHYDRATION OF REFRIGERANTS**

Davison's Silica Gel adsorbs moisture in the refrigerant instantly on contact, permits rapid, efficient installations and repairs.

This immediate drying process eliminates the necessity of waiting to see if the unit will function efficiently.

Other advantages of Davison's Silica Gel

are—It removes acids which cause corrosion, its capacity is unaffected by oil, will not cake or powder, will not attack metals or alloys.

Effective on Freon, Methyl Chloride, Sulphur Dioxide, etc., etc.

Davison's Silica Gel can be obtained from your jobber in factory-charged dehydrators and for refilling.

**THE DAVISON CHEMICAL CORPORATION**  
*Progress through Chemistry*

BALTIMORE-3, MD.

Canadian exclusive sales agents for DAVISON'S SILICA GEL:  
CANADIAN INDUSTRIES LIMITED, General Chemicals Division

● SEND FOR NEW, CONDENSED GRUNOW SERVICE MANUAL PRICE 50¢

**Grunow**  
AUTHORIZED SERVICE, INC.

**FACTORY TESTED PARTS**

4313 W. Fullerton Avenue, Chicago, Illinois



## Army Refrigeration Problems

By P. B. Reed

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

### How Preventive Maintenance Is Used

The well known saying "A stitch in time saves nine" applies to nothing more aptly than to refrigeration maintenance. So many things occur that, when they start, are so small and seemingly insignificant, yet soon grow into serious trouble that results in loss of food and time, dislocation of schedules, and lots of extra work for the maintenance man, usually at a most inconvenient time.

Preventive maintenance, consisting of regular periodic inspections and corrections was used to some extent in civilian refrigeration service before the war but has been largely discontinued due to the shortage of service men, for those left cannot even handle the actual repair calls. Moreover, the average civilian user is disinclined to pay for routine inspection service preferring to wait until something happens and then call urgently for service, which incidentally he will be very, very slow in getting this summer if he is fortunate enough to get service at all. The

picture for civilian refrigeration service this summer is not a pleasant prospect.

There are two phases to preventive maintenance.

(1) Regular inspections that discover and correct defects in their early stages and

(2) Education of the users in the proper operation of the equipment.

C. J. Freestone, district refrigeration engineer for the Army's Sixth Service Command, and who has actively promoted preventive maintenance in his district, has found that those camps which have stressed preventive maintenance have been the ones that have shown consistent reduction in the total number and in the percentage of actual repair calls compared to the number of pieces of equipment in use.

In some camps the reduction has been as much as 50% which is certainly well worth while. These increases in efficiency have made it possible for some of the posts to continue to function effectively despite loss of personnel which has been a problem with them the same as in civilian service.

Generally speaking the object is to decrease the number of actual service calls, those put in by the

using facility calling for repair, and this reduction has made it possible to increase the preventive maintenance calls to the point where every installation on the post will be given a thorough inspection once each month.

This monthly inspection is not a mere visual inspection—a hurried glance—but an actual check that will show whether or not the equipment is operating properly and whether there are evidences of incipient defects or weaknesses that may later show up as active troubles that may shut down the equipment or cause it to function so poorly as to give insufficient refrigeration resulting in food loss or non-use of the equipment. On this preventive call the motors are oiled, belts adjusted, condensers cleaned, evaporators defrosted if necessary, equipment cleaned.

#### ORIGINAL INSPECTION

Immediately after the equipment is installed it should be very carefully gone over and a record made of pressures, temperatures, and other pertinent data. C.E. Forms Nos. 417, 418, and 419, shown in the Repair and Utility Manual are very well suited to this purpose. They permanently record the temperature in the cabinet, the average suction and discharge pressures, the "on" and "off" settings of the controls, length and frequency of the operating cycles, oil level in the compressor, location and adjustment of auxiliary controls, the quantity and kind of refrigerant in the system, and indicates that the motors were oiled, the belts checked for tension and alignment, that the expansion valves were properly adjusted, that the water control valves supplied sufficient water during the "on" cycle but closed off tightly very shortly after the condensing unit ceased operating.

In addition this record should show the building number, the refrigerator number, the using facility, model and serial numbers of the condensing unit, blower units, evaporative condenser, etc. Likewise the date that this inspection was made should be recorded and the name of the officer or man responsible for the proper use and cleanliness of the food storage spaces.

Form 418 may also be used as the monthly inspection form but the Maintenance and Repair Officer may authorize a somewhat more abridged form, for 418 is more detailed than is required for the monthly inspection and would require an excessive amount of the mechanic's time to inspect the equipment so completely as to enable him to fill out the form.

#### USER'S INSTRUCTIONS

Subject to approval by the Post Engineer or the Maintenance and Repair Officer, a "User's Operating Instructions" should be posted near the equipment itself. These instructions should give the telephone number to call for service and should very clearly specify that the personnel of the using facility should not attempt to clean, adjust, oil, or repair the refrigerating equipment other than clean the cabinets. It should contain instructions (which should be approved by the Post Surgeon) regarding the frequency and method of cleaning the cabinet.

In some camps the medical officer has required that the refrigerators in the company kitchens be washed down daily just after breakfast and this has caused the cabinet to become so warm that hours passed before the temperature could be reduced to the required temperature of around 40° to 45°. It is not hygienically necessary to wash down the cabinet so often. Once a week should be often enough and even then it should be done in the evening to enable the equipment to recover its temperature before being given heavy usage again.

#### SERVICE WORK ORDER

Any using facility, such as a company kitchen or a cold storage warehouse needing service on refrigeration equipment, calls the Post Engineer's office where a repair work-order is made out and sent to the Refrigeration Shop. All labor and

material used in making the repair are recorded on the work-order and after the repair, all copies of the work-order are returned to the office, where the work is costed and charges properly allocated. This leaves the refrigeration shop without any record of the transaction.

The repair shop needs a record to enable the Refrigeration Supervisor to make a periodic analysis of service rendered by his department and for reference by the supervisor or the service man for a more intelligent study of the history of that particular installation which is frequently of value to the service man in more effectively and more quickly diagnosing the trouble and making the repair.

#### DAILY CALL RECORD AND SERVICE RECORD CARD

The Refrigeration Shop needs to keep two records.

(1) A Daily Call Record of the calls that are received and assigned to a service man. This record may be kept in a book in chronological order as the calls come in. It should show the date and hour the call was received by the Refrigeration Shop, the work-order number, the building number, the number of the equipment if any, the name of the service man to whom the call was assigned, and the hour that the call was given to him.

(2) A Service Record Card about 4 by 6 inches in size should be made for each piece of equipment and these should be filed by Building Number. On one side of this card should be shown the identifying data on the equipment, the U. S. model number, maker's name and serial numbers of the cabinets, evaporators,

evaporative condensers, water towers, condensing units (including serial number of the compressor body), and the make, horsepower, voltage, number of phases, serial numbers and frame sizes of all motors. Also should be shown the date that installation of the equipment was completed and the name and address of the contractor who installed it.

The reverse side of the Service Record Card should be columned to show data on each call made on that equipment, date of the call, work-order number, and a brief resume of the complaint and the corrective repair. The date will key the call back to the Daily Call Record and the work-order number will key it to the work-order file in the Engineer's office so that, at need, the work-order may be consulted for details.

#### ANALYSIS OF OVER-ALL OPERATION

By going through these two records each month the Supervisor can analyze whether or not the number of corrective service calls have risen above normal, what service men are working most effectively and have fewest call-backs, how many hours were actually charged to jobs and how many represented "lost time," and other conclusions necessary to an efficient administration of the department.

A repair shop should keep as few records as possible, but on the other hand enough records should be kept to facilitate the actual diagnosis and repair and to make efficient supervision possible, for supervision without records and periodic analysis of results is merely hand-to-mouth work instead of long range planning.

## VICK CHEMICAL COMPANY

War Plant Liquidation

Immediate Delivery

New January 15th, 1943

### CARRIER REFRIGERATOR SYSTEM

ITEM	DESCRIPTION	CEILING PRICE
27	1—Carrier Refrigeration Machine, model 17M, size 32, serial No. 695, 210 tons capacity, handling 200 G.P.M. of 85° to 55° F. water, complete with compressor, speed increaser, motor, condenser and evaporator, and miscellaneous parts...	\$13,395.00
28	1—3" Powers Pneumatic Valve and Thermostatic Controller	\$ 96.00
29	1—220 Hp. Westinghouse Slip-Ring Motor for above machine, 220 v, 3 ph., 60 cy.	
30	1—Westinghouse Starter, Drawing No. NA-A197150 PHC-55374	
31	1—Five-Speed Drum Controller, type 12304, class 12300, style 764291, complete with grids and 600-amp. line switch.	
ITEMS 29-31		\$ 2,064.00
32	1—Ingersoll-Rand Motor Pump, 4RVL15, 600 G.P.M., head in feet 60, R.P.M. 1745, 15 hp., 3 ph., 220 v, 60 cy., complete with line switch, magnetic starter and push button station. For use in circulating condenser water.	\$ 468.88
33	2—Ingersoll-Rand Motor Pumps, 2RVN5, 200 G.P.M., head in feet 60, R.P.M. 3480, 220 v, 3 ph., 60 cy., complete with line switch and manual starter.	\$ 345.44
TOTAL UNIT (Items 27-33)		\$16,369.60

#### Carrier Heating, Ventilating and Air-Washing Equipment

37	1—Size 10 High-speed American Blower Fan, No. 89218A, complete with 15 hp. — 3.75 hp., General Electric motor, 220 v, 3 ph., 60 cy., V-Belt drives, line switch, 2 speed magnetic starter and push button station.	\$ 974.00
38	1—Carrier Washer, complete with Ingersoll-Rand Motor Pump, 3RVL15, 500 G.P.M., head in feet 90, R.P.M. 1745, 220 v, 3 ph., 50 cy., line switch, magnetic starter and push button station.	\$ 1,339.00
39	3—Buffalo Blowers, type LL, size 2, class 1.	\$ 466.00
41A	Round Transit Duct and Hangers.	\$ 1,172.00
41B	Hoods over boiling kettles	
	1—28' x 14' .....	\$ 948.00
	1—21' x 14' .....	771.20
	1—14' x 7' .....	300.80
	1—9' x 6' .....	290.40

#### ALSO

35	1—Cooling Pond. This is located on top of present Recreation Building	No Ceiling
36	1—Water Storage Tank, Carolina Steel & Iron Co., 4' x 6' x 5' deep, 897 Gallons.	

#### ITEMS 35-36

\$ 2,400.00  
also D.C. Electrical Conversion and Distribution Equipment of General Electric Manufacture.

#### Terms of Sale

- Materials listed in this inventory are offered subject to prior sale.
- Materials are sold on a where-is and as-is basis. Vick will render reasonable cooperation in having goods packed and shipped.
- Ceiling prices listed herein are in accordance with interpretation obtained from legal counsel.
- Vick retains the right to reject any offer which is deemed not acceptable.

Address all communications to

J. V. Hall

VICK CHEMICAL COMPANY  
122 East 42nd Street, New York 17, New York

FOR  
*Curing the Ills*  
IN REFRIGERATION  
AND AIR CONDITIONING  
SYSTEMS

● When a system is sluggish we recommend an ACME heat exchanger and oil separator as a cure for this ailment.

When compressor capacity is on the border line for load requirements—these additions to the system will be found highly effective.

Many hundreds of installations in actual operation substantiate this suggestion.

For complete information—write for Catalog No. 12.

## ACME INDUSTRIES JACKSON, MICHIGAN

### OIL SEPARATOR

The chief purpose of an oil separator is to remove oil from the discharge gas and return it to the crankcase. An oil separator should return the oil to the compressor crankcase before it reaches the evaporator side of the system. Acme Oil Separators are designed for installation between the compressor and the condenser.

Write for Catalog No. 15.



#### ACME PRODUCTS

Evaporative Condensers, Ammonia Condensers, Freon Condensers, Dry-Ex Water Coolers, Flooded Water Coolers, Hi-Peak Water Coolers, Pipe Coils, Heat Interchangers, Oil Separators, Liquid Receivers, Forced Convection Units, Heat Exchangers. Write for Catalog on any item

## WPB 'Suspends' Firm For Illegal Locker Plant Installation

MIDDLEBURY, Vt. — Charging that Cartmell's Sales & Service, dealer in refrigerating equipment, milk coolers, and farm machinery here, has violated Limitation Orders L-79, L-38, and L-126, the War Production Board has suspended priority and allocation privileges of the firm for four months, April 26 to Aug. 23. The suspension order, however, does not apply to repair parts for refrigerating equipment and farm machinery.

Text of the suspension order follows:

Robert J. Cartmell, doing business as Cartmell's Sales & Service, sells and services farm machinery, milk cooling equipment, and refrigerating equipment, in Middlebury, Vermont. In January, 1943, he installed a frozen food locker storage plant in Morrisville, Vermont; the installation was not on a preferred order, and it was therefore in violation of Limitation Order L-38. In July and August, 1943, he used copper tubing for interconnecting refrigerant lines larger than 3/4 inch size (O.D.) in food locker installations in Fairhaven and Woodstock, Vermont, although Limitation Order L-126, Schedule II, prohibited the use of such tubing larger than 3/4 inch size (O.D.). This was a violation of Limitation Order L-126, Schedule II. In 1943 Mr. Cartmell made four sales of new metal plumbing equipment for more than \$10, to ultimate consumers, which equipment he knew was unlike any the purchasers had before; he stamped on the orders (his printed forms) for the equipment "material for maintenance, repair or operating supplies—rating A-10 under Preference Rating Order P-10" and told the purchasers that in order to obtain the equipment they had to sign the certificates, although he knew that the orders were not for maintenance, repair or operating supplies. This was in violation of Limitation Order L-79. In view of the foregoing, it is hereby ordered, that:

§1010.531 Suspension Order No. S-531.

(a) Deliveries of material to Robert J. Cartmell, doing business as Cartmell's Sales & Service, or otherwise, his successors or assigns, shall not be accorded priority over deliveries under any other contract or order, and no preference rating shall be assigned, applied or extended to such deliveries by means of preference rating orders, preference rating certificates, general preference orders, or any other order or regulation of the War Production Board, unless hereafter specifically authorized in writing by the War Production Board.

(b) No allocation, including allotments, of any material or product, the supply or distribution of which is governed by any order of the War Production Board, shall be made to Robert J. Cartmell, doing business as Cartmell's Sales & Service, or otherwise, his successors or assigns, unless hereafter specifically authorized in writing by the War Production Board.

(c) The provisions of this order shall not apply to repair parts for the servicing of refrigerating equipment and farm machinery.

(d) Nothing contained in this order shall be deemed to relieve Robert J. Cartmell, doing business as Cartmell's Sales & Service, or otherwise, his successors or assigns, from any restriction, prohibition or provision contained in any other order or regulation of the War Production Board, except insofar as the same may be inconsistent with the provisions hereof.

(e) This order shall take effect on April 26, 1944, and shall expire on Aug. 23, 1944.

## Butler Named Head Of Bossert Co.

UTICA, N. Y.—Gilbert Butler has been named president and general manager of the Bossert Co., Inc., succeeding Francis K. Kernan, pioneer manufacturer, who died here March 11, 1944.

Other changes in the company's executive personnel are the appointments of Warnick J. Kernan as vice president, and Peter Guido as secretary and treasurer.

Mr. Kernan, who served as president of the Bossert Co. since 1910, was a leader in the manufacture of pressed metal parts, having pioneered in stamping, pressing, and drawing both heavy and light metals. He was a director of several firms.

## Navy Has Question - 'How Many People Will an 8 x 6 Serve'

KENDALLVILLE, Ind. — How many people can be served out of an 8 by 6-foot cooler in a restaurant per day?

That's a question which prospects for commercial refrigeration equipment sometimes ask, and when a Navy procurement officer asked it recently, McCray Refrigerator Corp. put the question to its engineering department, who worked out an answer as follows:

"Generally speaking, one cu. ft. volume will handle one daily customer (three meals as in a restaurant). We suggest figuring a safety margin of about 30%. An 8 x 6 cooler has about 225 cu. ft. volume—225 cu. ft. less 30% equal 160 people, based on daily deliveries."

A further warning in the use of these figures was issued to the effect that these figures are approximate, that they depend on daily deliveries, and that they depend on the kind of meals or rations served.

## Chicago Distributor for Westinghouse Systems Takes Larger Quarters

CHICAGO—To provide more adequate facilities for postwar operation, Refrigeration Systems, Inc., distributor of Westinghouse commercial refrigeration and air conditioning for the Chicago area, has recently moved into larger quarters at 646 West Washington Blvd.

The present building, ideally located in the heart of Chicago's "machinery row," has been completely remodeled. The interior has been functionally arranged to make possible streamlined shop operation. The property, 30 feet by 150 feet, including a basement level, has a floor area of 13,500 square feet. The shop area includes a model stock room, an individual drafting room, a machine shop, and specially ventilated gas-filling and spray booths.

Organized three and a half years ago by Joseph H. Lazar and Alfred Kaufmann, the firm has experienced a rapid growth in the fields of commercial and industrial refrigeration. Mr. Lazar had previously been associated with the Westinghouse Electric Supply Co. for eight years as commercial refrigeration sales engineer, and Mr. Kaufmann had for 15 years been closely identified with retail store management in the promotion of one of the largest department store chains in the middle west.

Since the imposition of war restrictions on commercial refrigeration installations, Refrigeration Systems, Inc., has been confining its work to special applications of industrial refrigeration. Sub-zero test cabinets and chambers, altitude and stratosphere cabinets simulating pressure conditions to 50,000 feet, with temperatures from -90° to 175° F. and humidities to 95%, quenching and cutting oil coolers, welding tip coolers, refrigeration for vitamin processing, and plating solution coolers are but a few of the many specially engineered pieces of apparatus designed and manufactured by the company for the war industries.

Mr. Lazar, president of the firm, states that postwar plans include expansion in four divisions of operation:

1. Commercial refrigeration.
2. Self-contained refrigeration equipment.
3. Industrial refrigeration applications.
4. Air conditioning.

## Phoenix Hospital Has Garbage Refrigerator

PHOENIX, Ariz.—When refrigeration equipment was being installed for the kitchen of the new \$400,000 St. Monica's Hospital here, it was decided to cool the garbage room.

"This new refrigerated garbage room is the first one I ever installed, and I never heard of one before, but it is a good idea and does a good job," declared J. L. Lawson, head of Lawson Refrigeration Co., Inc., here, subcontractor for refrigeration.

In the cooled garbage room, held at 55° F., are placed empty milk bottles, cans, and other kitchen waste, pending removal from the premises. Apparently, refrigeration discourages the growth of bacteria in the garbage and prevents unpleasant odors.

Refrigeration for the garbage room and the food storage boxes is supplied by two Curtis compressors located in a basement compressor room. A 1 1/2-ton unit holds a meat box at 35° F., a dairy box and a vegetable box at 45° F., and the garbage room at 55° F. A 1/2-ton machine keeps at 45° F. an all-purpose 40-ft. reach-in box in which are stored fruits, jello, desserts, and pastries.

The hospital, founded by the Rev. Emmett J. McLoughlin, O.F.M., a member of the Phoenix Housing Authority, and secretary of the Arizona State Board of Health, was built by the Public Buildings Administration of the Federal Works Agency. It is of one-story construction and houses 150 beds.

Architects were Lescher and Mahoney.

## \*Everyone Knows Henry W. Gullatt!



\*That is, everyone in the refrigeration industry in South Carolina, Georgia and Florida. If you are in that territory, you're in-

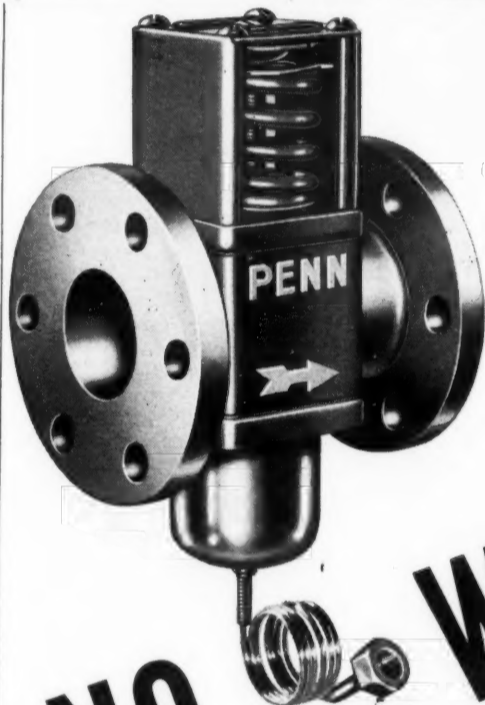
vited to get in touch with Mr. Gullatt, 29 Haynes St., N.W., Atlanta, Georgia, any time you want speedy, efficient Ansul service.

**ANSUL**  
CHEMICAL COMPANY  
Agents for Kinetic's "FREON-12"  
MARINETTE • WISCONSIN



Orders Filled  
the Day  
Received

TWENTY-EIGHT YEARS OF KNOWING HOW



NO

WATER HAMMER

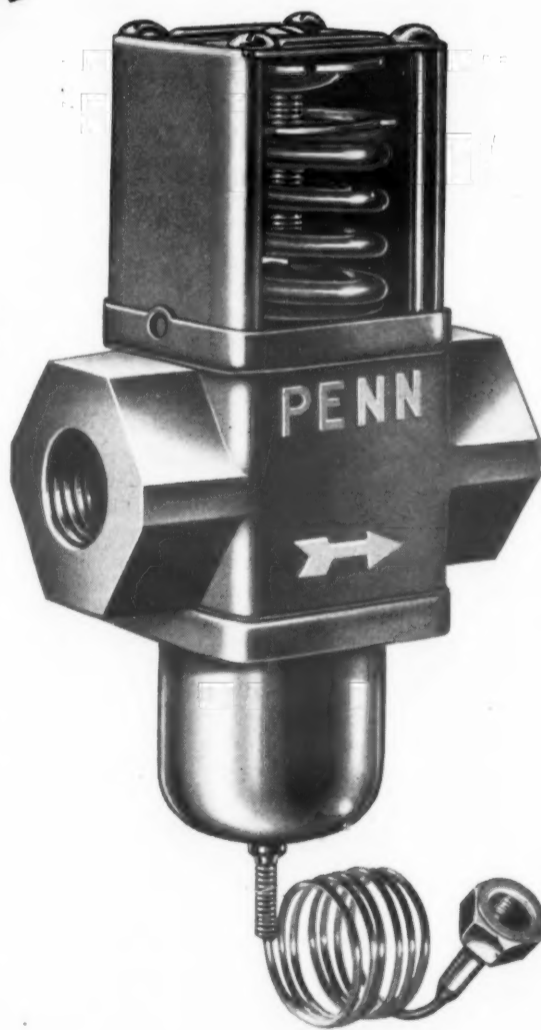
## ...IN PENN'S NEW WATER VALVE

the new, and inherently different design, banishes water hammer along with other causes of difficulty in ordinary valves.

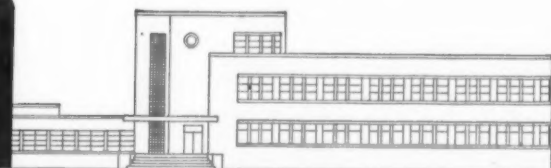
Only three parts come in contact with the water... valve disc holder, extension sleeve, and valve seat... and these are of non-corrosive material. There is no sticking of seats, no rusting of range springs, no corrosion and sedimentation on sliding parts.

Penn Series 246 Water Regulators are available in the threaded or flanged type. All operating and replaceable parts are readily accessible for service and inspection without removing valve from line. Valve may be manually flushed simply by lifting range spring with a screw driver!

Send now for illustrated Bulletin R-1986 which gives complete information. Penn Electric Switch Co., Goshen, Ind. Export Division, 13 E. 40th St., New York 16, U.S.A. In Canada: Powerlite Devices, Ltd., Toronto, Ont.

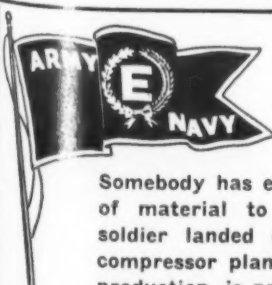


**PENN**



**AUTOMATIC CONTROLS**

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS



## Twenty Tons per Man

Somebody has estimated that it takes about twenty tons of material to support the activities of each Allied soldier landed on a belligerent shore. The M. & E. compressor plant, now one hundred percent in ordnance production, is proud of its ability to deliver a substantial and important part of this vital material to our fighting men abroad.



**MERCHANT & EVANS COMPANY**  
PHILADELPHIA, PENNA. • Plant: LANCASTER, PENNA.

# Inside Dope

By George F. Taubeneck

(Concluded from Page 1, Column 1)

## Production Chaos

Many production managers who are now relaxing in the belief that they're "all set" on what they're making for the war may be due for some sudden and rude shocks.

After the invasion gets well under way, military authorities expect all sorts of "battle experience" changes to be ordered. Production of some weapons may be cut back sharply; production of others advanced under the most urgent priorities. And design changes are expected to pile up and cause production headaches galore.

No matter how perfect a weapon may appear on the proving grounds, battle testing is sure to show up needed alterations.

After that rush, don't be surprised if there isn't a fairly sudden reopening of the opportunity to produce consumers goods. The invasion could be a blitz, you know; and if success is rapid, the WPB is all set to force the shift to consumers goods production as rapidly as possible.

Great unemployment just before election time would be a helluva note, and you can bank on it that the Administration will go into high gear in authorizing production of consumers goods.

Such a move would be politically

wise on two counts: (1) prevent unemployment, (2) replenish stocks of things consumers have wanted for so long.

## Plenty of Food

Last month this column stated that food surpluses had become the biggest problem facing the "overall planners" down in Washington. Sure enough, most meats and canned goods came off the rationed list shortly thereafter.

As a matter of fact, you can expect even steaks and roasts to be ration free, along with all canned goods and possibly oleomargarine.

The stuff is "running out of our ears."

That same situation is true on almost everything that the armed forces buy and use. Within a few months it probably will be seen that they have far more of everything—from medicine to men, from ships to shoes—than they need.

Piling up surpluses is the right way to win a war, but trying to get rid of these surpluses once the war is won will be one of the worst headaches of all time.

Farmers are enjoying an all-time boom right now, but it could end with surprising suddenness, notwithstanding the fact that relief operations in reoccupied Europe will tem-

porarily absorb some of the surpluses.

What we've been doing is building up stockpiles, in addition to eating better ourselves and feeding our Allies. Those stockpiles now approach almost a year's supply for the armed forces, we hear; and they have outrun all storage facilities. Russia will need less and less food from us. Canadian and South American surpluses are piling up, and probably will pile even higher.

There's political dynamite in this situation.

## Labor Trouble

You can bank on it that plenty of labor trouble is ahead—particularly after the war in Europe appears to be headed for a successful conclusion.

Sporadic outbreaks of trouble plague us now, but they will be as nothing compared to what's ahead when the war compulsions are ended.

One reason advanced for the long delay in opening the Second Front is the fear of strikes, and the determination to pile up as much war material as possible while the motive was holding union leaders under leash.

Most political observers believe, however, that eventually labor will be forced into a strategic retreat. But the retreat won't come without a terrific battle, or series of battles.

Labor relations are due to become the most important and tensest item on the agenda of company business.

## George Meek Back

Speaking of the Invasion delay, Carrier Corp.'s brilliant George Meek has just returned from London, where he spent a year working with Averell Harriman and Philip Reed on the Lend-Lease Administration.

George says that he lost some bets, too; because in London he and his associates saw that everything was all set for the Invasion to take place last November. All they know is that the decision to move across the channel was "postponed" not by the military planners, but "from above."

Meek is fully convinced that a third World War is probable, and that America had better stay strong—and become stronger—just in case. After working so long with the various Allied groups and governments-in-exile he can see little prospect for permanent peace.

One reason the English take the war so calmly, he reports, is that they expect war to recur regularly, like winter. To us it's a cataclysm; to them, it's like death and taxes. And that's another reason why they're so far ahead of us on post-war planning. They know that it always stops raining.

## Export Policy

Quietly and without fanfare the United Nations economic experts have been working on the outlines of a joint policy for the promotion of mutually advantageous international trade.

Cordell Hull's reciprocal trade pacts are providing the basis for the discussions. Two big differences are developing: (1) the pacts would be multilateral (several signatory nations, instead of two); and (2) the various governments will have a bigger finger in the pie than ever before.

Regular export firms would continue to do business in the same fashion, but collective statistics would be kept, and "trade balances" would be maintained annually. These "balances" will probably be on a barter basis, and would be planned in advance.

Thus Russia could say: "In 1946 we shall have X tons of certain minerals, X barrels of oil, and X tons of wheat to sell." England would counter with its proposed exports of finished products, and America would shove on the table specified quantities of raw materials and machines.

These total sums of proposed exports would then be "balanced" through "barter," after which individual exporters would be privileged to sell such goods to regular customers up to the agreed-in-advance limits in that category of goods.

Big difficulty is that both Russia and Britain will need to import more than they export, while the reverse will be true of the United States. So, inasmuch as both Britain and Russia have considerable gold

production, that hoard of yellow metal buried at Fort Knox may have to expand.

## Another Soldier Talks

Harrassed service managers won't improve their tempers by reading the following epistle from a former service man now in the Army:

"I read with much interest the letter published by you in your 'Inside Dope' column on Feb. 14, 1944 as to what becomes of the refrigeration mechanic after he is inducted into the armed forces.

"I would like to add to this as to what becomes of a skilled man whose services are vitally needed both on the outside and in the Army itself and who has been classified as limited service.

"As the writer of the letter published by you stated, the poor refrigeration serviceman is examined physically and one doctor gets on each side of him and looks in his ears and if they can't see each other he is O.K. for the Army. Now, after he has been in training for some time and some old ailment or defect begins to bother him he goes on sick call at a nearby dispensary for treatment. Here he is given some sugar-coated pills to be taken three times a day.

"Naturally his trouble continues and he starts 'riding' the sick book trying to impress on the dispensary officials his ailment is getting no better. So the learned doctors consult each other, scratch their heads, and finally decide to send him to the station hospital for further treatment.

"Here he is given all sorts of questions as to whether or not his

parents were insane, or he ever had suffered a broken bone when learning to ride a bike when a kid, etc. Then he is assigned a ward and given a bed number.

"Now starts a series of blood tests, X-rays, heart tests, etc. By this time he begins to think he is in a very bad condition and starts to worry. This goes on for at least two weeks after which time the learned doctors have arrived at the conclusion he is suffering from psycho-neurosis (which means something they can't find) and is put in limited service and discharged back to duty.

"Here he lies around his camp doing nothing at all for about two weeks waiting for a transfer. By this time he is really psycho-neurotic or should be which proves the doctors were not wrong at all. In the meantime his old trouble continues, he goes on sick call again, and the dispensary officials look up his record, see that he was just in the hospital, and tell him they are going to return him for further treatment.

"This time he is assigned to a 'nervous' ward where he mixes with morons, 'eight ballers,' and 'section eight' material. By the time he is released he is ready for a discharge but is informed by the examining physician he can still pick up cigarette butts and thus relieve a fighting man for action.

"By this time the refrigeration expert, who is so vitally needed to keep the nation's faltering cooling equipment in running order, resigns himself to his fate and is content to read a copy of the NEWS occasionally to see how much worse the situation is becoming. In the meantime he is fast becoming an expert in 'policing up' so the Army has found something he is useful at."



## REMOVING PITCH FROM GROUND LENSES

has no connection with food...

But the application of refrigeration is vital to both! Removing the pitch with which the lens is cemented to the grinding tool has been a long standing problem of lens, optical and camera manufacturers. Recent experience has proved that the most efficient and economical method of accomplishing it, without damaging the lens, is to chill to a low temperature, whereupon the pitch drops away from the lens freely and completely. No manual labor is involved and the time element is minimized, an important factor in war production.

Similarly, modern commercial refrigeration has reduced food spoilage greatly with the least manual labor possible.

Brunner commercial refrigeration units are aiding in quicker separation of the pitch that holds lenses to the grinding tools and is a vital necessity in the preservation of our food supplies. The lessons we have learned in the production of condensing units for many refrigeration applications, essential to the winning of the war, will be applied to good advantage in the production of the most modern peacetime equipment.

The application of commercial or industrial refrigeration is no longer guesswork. Brunner has produced refrigeration condensing units for 36 years. Our engineers are experts. Why not consult them on any temperature or humidity problem?

**BRUNNER MANUFACTURING COMPANY**  
UTICA 1, NEW YORK, U. S. A.



For over 36 years the Symbol of Quality



## Replacement Market Check List

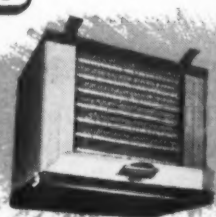


Recently published figures of the W. P. B. Task Committee show that the sales of commercial refrigeration equipment for replacement during 1944 will exceed \$100,000,000 in retail sales value. Opportunities are wide open in all these fields . . . and with other commodities where dehydration is detrimental and cooling necessary. The Amcoil Food Conditioner, a "complete refrigeration system", when combined with any condensing unit, offers ground-floor advantages to all connected with its sales and promotion.

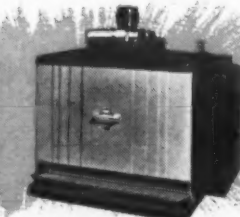
Temperatures controlled down to 35° F. and relative humidities up to 93%, this new Amcoil operates in all walk-in boxes, helps to insure the success of storage and product conditioning operations. It is now available on rated orders—AA5 or better under L-38. While fully cooperating with all war-time restrictions, we have never used substitutes to maintain volume output—a policy that applies to all Amcoil commercial and industrial units.

**ORDER NOW FOR IMMEDIATE SHIPMENT**  
**ALSO AVAILABLE NOW**

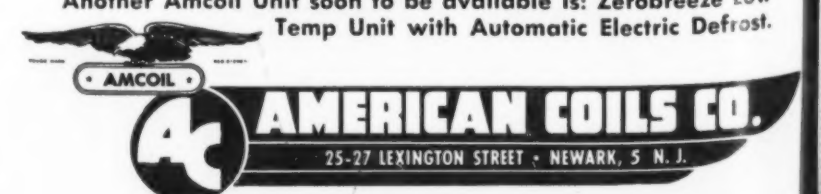
ALSERVICE  
WALL MOUNTED  
COOLING UNIT



ALSERVICE  
OPENFACE  
COOLING UNIT



Another Amcoil Unit soon to be available is: Zerobreeze Low Temp Unit with Automatic Electric Defrost.



**AMERICAN COILS CO.**  
25-27 LEXINGTON STREET - NEWARK, 5 N. J.

## Schenk To Do Field Engineering For Alco



JOHN A. SCHENK

ST. LOUIS, Mo.—John A. Schenk, who has been handling priority material allotments and production coordination at Alco Valve Co.'s plant here for the past two years, has been appointed application engineer, and will work in the field on design and application problems.

A graduate electrical engineer from the University of Detroit, Mr. Schenk joined Alco in 1935. After a year in the engineering department devoted to research and design, he was named manager of the company's Chicago office. When war conditions forced Alco to close this office in April, 1942, he returned to the factory.

Mr. Schenk is a member of the A.S.R.E. and Tau Phi, honorary scholastic fraternity, and has served as consultant on research problems at Minnesota and Northwestern universities.

## Carlson Joins Admiral Production Staff

CHICAGO—Lou A. Carlson, formerly in charge of Philco's household refrigerator production, has been appointed refrigerator production engineer for Admiral Corp., according to L. H. D. Baker, vice president in charge of major appliances.

Before joining Philco in 1939, Mr. Carlson had been design and unit engineer with Stewart-Warner Corp. since 1937, helping develop S-W's hermetically sealed refrigeration system. Prior to 1937 he was chief refrigeration engineer for General Household Utilities Corp.

**"Refrigeration Service Shops should prepare NOW for the heavy demand for their services"**  
WFB BULLETIN

Maybe in past years you have not been accustomed to stocking parts and supplies to take care of your summer "peak," but this year WFB urges you to anticipate as far in advance as possible. That means just one thing: Go through your

**AIRO CATALOG**, page by page, and order your needs today. Of course, if you haven't a copy of AIRO's Victory Catalog, we'll send you one promptly. (Please write on your letterhead.)

**AIRO SUPPLY CO.**  
Wholesale  
Refrigeration Parts,  
Equipment, and Supplies  
Dept. B, 2732 N. Ashland Ave.,  
Chicago 14, Ill.

## West To Get Some 'Desert Coolers' Soon

(Concluded from Page 1, Column 5)

be approved only for use in the arid regions of the West and applications by purchasers on Form 1319 may be filed only with the local offices of WPB in San Francisco or Los Angeles, Calif., or Phoenix, Ariz.

Text of Direction 1 to Order L-38 is as follows:

[Limitation Order L-38, Direction 1]  
**EVAPORATIVE COOLERS FOR CIVILIAN USE IN DESERT AREAS**

**Direction regarding desert coolers.** It has been determined that production of a limited amount of evaporative coolers ("desert coolers") for the use of certain civilians living in the arid regions of the western part of the country, will be permitted, to the extent that this may be found feasible without causing interference with other more essential programs.

Order L-38 prohibits manufacture of evaporative coolers rated less than 2,000 c.f.m. and restricts manufacture of larger sizes, and permits delivery of the larger sizes subject to certain restrictions. Such production as may be permitted under this direction is in addition to that provided for by Order L-38, but may not be commenced until the particular manufacturer has received a specific authorization to produce a specified number of coolers, and when he has received such authorization, the coolers which he produces may be delivered only for the purposes and under the conditions stated below.

**How a prospective producer may apply for an authorization.** Any evaporative cooler manufacturer may apply for an authorization to produce some of the coolers contemplated by this direction, by filing with the District Office of the War Production Board for the district in which the manufacturing is to be done, on or before May 29, 1944, by letter in triplicate, an application stating:

(1) The total number of such coolers which he wishes to produce, and

(2) The total number of motors he proposes to use which are available from inventories of used motors or from inventories of new motors in his hands or in the hands of another evaporative cooler manufacturer on April 1, 1944, and obtained for making such kind of coolers, or from inventories of new motors which a Regional Office of the War Production Board has certified as being frozen, idle, or excess stock, and the name and address of the holder and the quantity in such stock, and

(3) The quantity of other materials which he will need to obtain from frozen, idle, or excess materials under Priorities Regulation 13, and

(4) (a) The total number of production workers necessary for assembling these coolers, (b) the total number of employees to be transferred from other operations in his plant, indicating the relation of these employees to his war work. If war contracts are being terminated, cut back, or completed, indicate date, type of production under contract, procuring agency, and number and type of employees involved.

If the prospective manufacturer needs to get any motors or other materials which he is unable to buy because he cannot furnish the necessary ratings or meet other requirements under Priorities Regulation 13, he may apply on Form WPB-1161 for permission to purchase such materials from the frozen, idle, or excess stocks of a holder who qualifies to make a special sale of those materials under that regulation. If he wishes to use frozen, idle, or excess motors in his own inventory, his request to use these should be included in his letter of application to produce. This should be filed with his application for an authorization to produce coolers under this direction. No preference rating will be assigned, as it is the intent that only frozen, idle or excess materials should be obtained.

If his application to produce is authorized, in whole or in part, he will be issued an authorization to purchase any frozen, idle, or excess materials needed and known to be available for delivery as a special sale under Priorities Regulation 13, whenever the material is of a kind which requires such an authorization under that Regulation.

**How coolers authorized under this direction may be delivered.** Any manufacturer who is authorized to produce any evaporative coolers under this direction must not deliver any of them, regardless of their size, except to fill an order approved by the War Production Board on Form WPB-1319. Deliveries will be approved only for use in the arid regions of the West and applications by purchasers on Form WPB-1319 may be filed only with the local offices of the War Production Board in San Francisco or Los Angeles, Calif., or Phoenix, Ariz. No preference rating will be assigned on such forms, as it is not intended that any person supplying such coolers to a user shall replace in his inventory any motors or other materials used in their production; however, a manufacturer who has been authorized to produce them may deliver them either directly to the purchaser who has obtained approval on Form WPB-1319 or through a dealer.

## G-E Service Article Omitted This Week

**Editor's Note:** Because of last minute news received from Washington, D. C., it has been necessary to drop from this issue of Air Conditioning & Refrigeration News the ninth installment of the series "Servicing the G-E Refrigerator Line." These articles, of interest to all service men, will be resumed in the next big issue.

Any person purchasing a cooler under an authorization on Form WPB-1319 may use the standard certification permitted by Priorities Regulation 7.

As used in this direction, "evaporative cooler" (sometimes known as a "desert cooler"), means any equipment designed to lower the temperature of air by means of the evaporation of water, and consisting primarily of a housing, a fan powered by a fractional horsepower motor, and an evaporative medium such as wetted excelsior, it does not include an "evaporative condenser" or "air washer," as these terms are commonly used in the industry.

This direction shall apply to the production and delivery of all evaporative coolers produced under it, notwithstanding any inconsistent provisions of Limitation Order L-38.

Issued this 18th day of May, 1944.

## Commercial and Domestic REFRIGERATOR HARDWARE



**NATIONAL LOCK COMPANY**

ROCKFORD, ILLINOIS

**Your refrigeration parts and supply house in Central New York and Northern Pennsylvania**

**TED GLOU**

**CENTRAL SERVICE SUPPLY CO.**

409 E. Jefferson St., Syracuse, N. Y.

Phone 5-4000

209 Jefferson Ave., Scranton, Pa.

Phone 3-4000

The large U-shaped bend illustrated above is a heat exchanger unit used in Army portable walk-in refrigerators with our armed forces overseas.

**MUELLER BRASS CO.**  
PORT HURON, MICHIGAN

**We make:**  
Standard Tubular Fittings  
Headers and Manifolds  
(complete and semi-finished)  
Single Pipe and Double  
Pipe Copper Coils  
Special Tubular  
Assemblies  
Filters • Driers  
Heat Interchangers

We manufacture copper pipe coils in a multitude of shapes and sizes. Smooth, round bends and exact dimensions are characteristic of Mueller Brass Co. coils. Copper tubing is manufactured in our own mills—exactly the right grade as specified for the particular part.

We specialize in tubular assemblies, wrought copper solder type fittings and return bends. Our equipment is the most modern procurable and adapted to low cost, high quality products. All tools for fabricating, forming and processing are made in our own Tool Making Department—the best possible tools for the job are thus obtained with the least possible delay.

Write us if you have requirements for specially fabricated copper tube. Our engineers will be glad to help solve the problem.

**VALVES • FITTINGS  
ACCESSORIES FOR  
REFRIGERATION AND  
AIR CONDITIONING**

# HOWELL MOTORS

**ELECTRIC MOTORS FOR INDUSTRY SINCE 1915**

HOWELL ELECTRIC MOTORS COMPANY • HOWELL, MICH. • REPRESENTATIVES IN ALL PRINCIPAL CITIES

## 'Functional Specifications' For Home Freezer Set Up By REA

ST. LOUIS—Functional specifications for a home freezer and storage chest of 20 cubic foot capacity were recently drawn up by the Technical Standards Division of the Rural Electrification Administration.

Main purpose of the announcement of the specifications, said an REA official, is to stimulate thinking about freezer and storage equipment for the farms. "What we're shooting for is a cabinet that will be designed so as to do the job, and which will also take in such other considerations as the size and shape that will get through a barn door, etc.," the official declared.

The REA neither makes nor purchases equipment of this type, but it sometimes takes a hand in group purchasing activities of the farmers who make use of its power. It is possible that some group buying plan on home freezers may come about before the war's end.

Following are the recommended specifications:

U. S. Department of Agriculture  
Rural Electrification Administration  
Technical Standards Division  
Functional Specifications for  
Home Freezer and Storage Chest  
20 Cubic Foot Capacity

Approved by  
Technical Standards Committee "A"  
March 5, 1943

These specifications describe the functional requirements for a chest of such construction and arrangement, and equipped with such accessories as may be necessary to freeze and store a portion of the meat, poultry, fish, fruit, and vegetables which constitute the food requirement of the rural family.

The term "chest" when used in these specifications is intended to refer to the complete assembly, including cabinet, condensing unit, and all accessories.

It is the intention of these specifications in all points, whether or not specifically covered herein, to obtain a first-class chest, of modern engineering design, construction, and workmanship. Consideration shall be given to the need for such features as shelves, partitions, fan, accessibility of storage space and other factors which will affect the use of the chest.

The chest shall comply with all ASA, AIEE, ASME, NEMA, ASRE, or any other applicable standards. The bidder shall submit proof that the chests to be supplied under these specifications conform to the standards of the Underwriters' Laboratories, Inc., as regards fire and casualty hazards. The listing of the Underwriters' Laboratories, Inc. will be accepted as conforming with this requirement.

### SERVICE CONDITIONS

To a large degree, the chest will be used in rural areas not readily accessible to service centers, and every reasonable precaution is to be exercised to provide a trouble-free unit. Construction and assembly shall be such that the condensing unit (together with the evaporator in completely sealed units) may be readily replaced by locally available mechanics and without factory facilities.

The chest shall be suitable for housing in both heated and unheated buildings, and temperatures of minus 10° F. shall cause no harmful effects to it.

### CABINET

**General:** The cabinet shall be of the top-opening type. The chest may be shipped either completely assembled or with the compressor detached from the cabinet, in which case provisions shall be made for assembly so the unit will be ready for operation upon release to the purchaser.

**Materials:** Materials used in the cabinet or any part thereof shall have no deleterious effects on foodstuffs. All lumber shall be termite-proofed.

**Sizes:** The usable volume of the cabinet shall be approximately 20 cubic feet, approximately 5 cubic feet comprising the freezing compartment and the remainder storage space.

**Dimensions:** It shall be possible to move the chest through a 30-inch doorway. To accomplish this, it will be permissible to construct the lids or any projecting parts in a manner to render them easily removable and accurately replaceable.

**Interior Surface:** The interior shall be so constructed as to provide a sanitary, easily-cleaned surface. It shall be smooth so as to permit easy removal of frost.

**Shelving:** Depending on the shape and arrangement of the freezing compartment, consideration shall be given to the need for suitable shelves to allow proper circulation of air about food being frozen.

**Drain:** If a drain is provided, it shall permit moisture removal with the box in a level position and shall be of such construction as to prevent direct conduction of heat to the inner liner of the cabinet.

### CONDENSING UNIT

**Compressor:** The compressor shall be an air-cooled unit. It shall be

readily accessible for servicing.

**Motor:** The compressor motor shall not exceed ½ hp. in size, shall be of the capacitor type, and shall be suitable for single-phase, 60 cycle, 120-240 volt service. It shall be protected by a suitable overload device.

### PERFORMANCE

**General:** The chest shall comply with the tests herein listed, with the machine in adjustment for normal operation.

**Temperature Control:** An automatic temperature control adjustable within a range of approximately minus 20° to plus 20° F. shall be used to control storage temperature. The control shall be capable of maintaining the temperature of the storage compartment within 2° plus or minus of the temperature at which it is set except when sharp freezing is being done. At time of delivery, it shall be set to provide a storage compartment temperature of 0° F. with an allowable differential of 2° plus or minus.

**Freezing Rate—Freezing Compartment:** It shall be possible in 14 hours to freeze 45 pounds of water placed in 47 closed pint waxed cup containers. Cups are to be of the type manufactured by the Lily-Tulip Cup Co., and known as Nestrite, or equivalent. The initial temperature of the water is to be not less than 80° F. The storage compartment is to be empty and the chest shall have been operated with automatic control at a temperature of 0° F., plus or minus 2°, for not less than 24 hours immediately before the test. The ambient temperature shall be not less than 80° F. and water shall be considered frozen when it reaches 28° F. and the air temperature in the freezer compartment reaches 5° F.

**Storage Compartment Temperature:** With the storage and freezer compartments empty and with an ambient temperature of 80° F., it

shall be possible to maintain a temperature of 0° F., plus or minus 2° with an average energy consumption of not more than 3.75 kilowatt hours per 24 hours. This test shall extend over a continuous period of not less than 96 hours.

Under this requirement, a temperature of 0° F. or less, plus or minus the allowable variation, shall be met at all points within the storage volume located at and below five inches from the inside top surface of the chest.

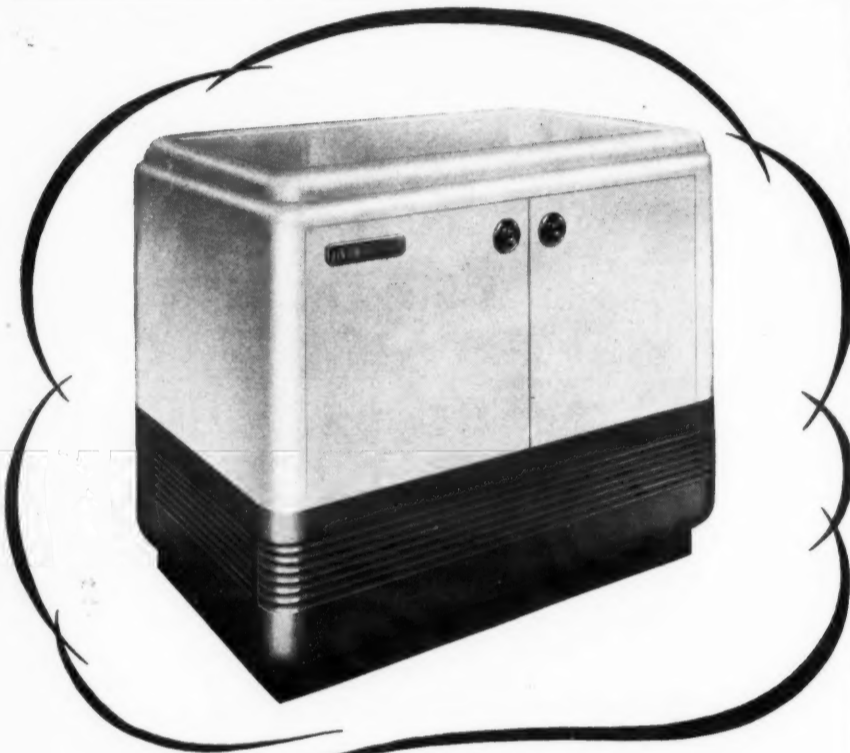
**Guarantee of Performance:** The seller shall supply complete descriptive material, give a guarantee of, and provide data showing the performance and conditions for tests herein described as "Freezing Rate—Freezing Compartment" and "Storage Compartment Temperature."

### WARRANTY

The seller shall warrant all home freezer and storage chests furnished hereunder to be free from defects in material and workmanship, and the seller will repair or replace any chest or chests or any part thereof which may be found to be defective in material or workmanship within a period of one (1) year from date of delivery; provided, however, that if within three (3) years after the date of delivery any defect shall be found in the material or workmanship of that portion of the chest known as the cabinet, such defect will be remedied by and at the expense of the seller. This warranty will not apply to any chest or part thereof, which has been subjected to any accident, alteration, abuse, or misuse. The parts in question shall be returned to the seller, transportation charges prepaid.

### INSTRUCTIONS

Full instructions regarding installation, care, adjustment, and operation shall accompany each unit.



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of many  
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Talk to any farmer about a farm locker plant and his first comment will be, "wish we had it now." And he'll follow with the promise that food freezing and frozen storage is the FIRST thing he's going to add after the war.

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Field Engineering Offices in Principal Cities

## 'The Home Freezer Will Put the Promotion For the Frozen Food Business In the Home'

Deepfreeze Man Tells Why It Must Be Sold to Homes

By S. J. Seibert, Deepfreeze Div., Motor Products Corp.

Never have we ever been as conscious of food as we are today and we hope that we never will be again, if, for the same reason.

What has this done for the refrigeration industry? Sure, it has made people conscious of their refrigerator and the fact that there is a great deal of other refrigeration equipment necessary to supply the products for their own. That market, however, has always existed and was fairly well exploited.

No, it is much bigger than that. It has really set the stage for a brand new market that will, in turn, create new and greater demands on every phase of manufacturing in the refrigeration industry.

It has laid the ground work, planted the seed, and actually nourished a market that reaches out to almost every home and has the possibility of causing a revolution in the distribution of food.

This revolution will come about through the media of frozen foods. This is not day dreaming. If it is, there are a lot of reputable men not necessarily affiliated with the refrigeration business who are day dreaming.

If this revolution does not come, it will be the fault of the manufacturers of refrigeration equipment and theirs alone. If they fail to get back of this and encourage this business right now—today—and fail to continue to back it with the necessary stimuli and enthusiasm that any business requires for rapid expansion, they will have themselves to blame for missing the greatest opportunity ever offered an industry. The home freezer business can be,

and should be, as big as its high temperature brother, the electric refrigerator. Why not? Is there any good reason why a home should not have one of each? People, themselves, are talking about having one of each; and economically, it is sound.

Are we going to be keen enough to cash in on this when the stage has been set so well for us or are we going to be out-merchandised by some other industry and lose to them in competition for the customer's dollars?

Right now we should be taking action! A great many are, but the commercial refrigeration industry as a whole has not caught the vision. They think of the home freezer as a "toy"—a "gadget"—a "rich man's hobby"—and anyway, they don't distribute to the home market. They are only concerned with the commercial or industrial type of equipment, so why bother?

Here's why: If the market can be reached and the home is equipped with a storage cabinet for frozen food, it will, for the first time, put the promotion for the frozen food business in the home where it is consumed; and not have it depend for its promotion on the retail food merchant, who by and large is not the world's best business man, and who could only see that if he sold frozen food to his customers, all that he did was to reduce his sales in some other department.

To do this, he had to invest in additional equipment, additional inventory and additional operating costs.

No, we won't look to him to pro-

mote this business for us. We'll sell the industry to his customers who will then sell him . . . and here we go—retail frozen food cabinets larger and larger (even eliminating the retail meat cooler).

Intermediate warehouses, larger central warehouses, meat packers, canners, food processors of all kinds, trucks and railroad cars, all will require new and additional low temperature refrigeration made by concerns who aren't bothering about a home freezer—and then, an altogether new market, the processing of frozen cooked foods.

Even the home frozen food cabinet itself will require a lot of refrigeration equipment that the manufacturer of the cabinets will not produce himself.

The home freezer can be the spark-plug for the entire frozen food business; and as such, it should be the concern of every manufacturer in the refrigeration business. The time to strike is when the iron is hot. It is the opportunity we have before us.

### Hotpoint Offers Guide On Food Preserving

CHICAGO — Hotpoint's 20-page guide to home food preservation, based upon authoritative information from the U. S. Department of Agriculture, is now ready for distribution to dealers.

This newest home canning guide reflects the benefits of intensive research aimed at solving new problems of conserving Victory Garden products to meet wartime food needs. The booklet is indexed to simplify procedures for experienced canners, or to show those unfamiliar with canning process how to take each step.

A new lower price of \$2.95 per hundred, f.o.b. Chicago, was announced. The price for dealer's imprint on the cover is \$2 per thousand, with a minimum charge of \$2.

## Washington A.S.R.E. Hears Some Gov't Slants on Home Freezing, Locker Rental, Chances For 'Freon'

BALTIMORE, Md. — Forum discussions of three topics—food preservation, utilities' viewpoint of refrigeration, and the role of the War Production Board in the refrigeration industry—marked a recent meeting of the Baltimore-Washington section of American Society of Refrigerating Engineers held at the Engineers' Club here.

Members heard Dr. C. H. Mahoney, chief of the horticultural department of the University of Maryland; S. T. Warrington, senior agriculture economist of the U. S. Department of Agriculture; H. F. Carr, who read the paper prepared by John de B. Shepard, air conditioning engineer with Consolidated Gas, Electric Light, and Power Co. of Baltimore; and Frank B. Millham, assistant chief, Special Equipment Branch, General Industrial Equipment division, War Production Board.

Analyzing the three major methods of preserving foods—canning, dehydrating, and freezing—Dr. Mahoney predicted that the present competition between proponents of these methods will eventually end with the best preservation method being chosen to suit the individual product.

Since no method of preservation can improve the original product, according to Dr. Mahoney, he stressed the importance of determining the proper preservation method to be used before processing any foods.

Locker operators should have a thorough knowledge of proper food

handling and processing prior to freezing, contended Dr. Mahoney, who was supported in his belief by Mr. Warrington.

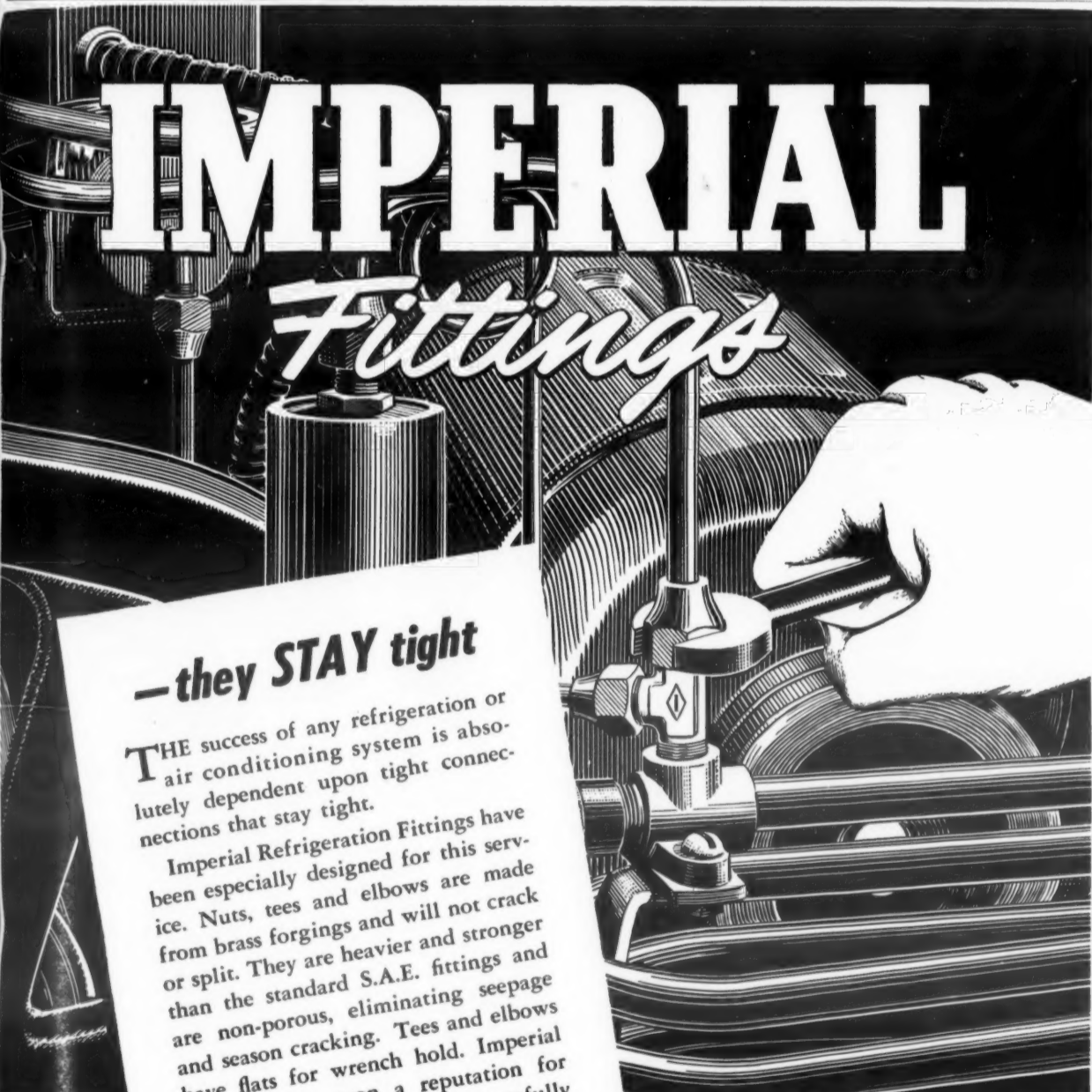
Mr. Warrington also pointed out the need for a "happy medium" on locker rental charges, which, he said, vary at the present time from a low of 75 cents to \$2.50 a locker per month.

A more uniform rental would benefit the locker industry as a whole in the long run, he declared.

Utilities are quite interested in the growth of domestic air conditioning, for it is an excellent load builder, said Mr. Shepard, the utility engineer, but it does present a problem in that a high load factor is added to the utility for a relatively short period of time during the summer months.

On large installations it would be desirable, from the utility's standpoint, to use an "off-peak" storage type of system to maintain a more even load factor, he declared. The load could also be smoothed out by utilizing a gas-fired absorption refrigeration unit for summer cooling in conjunction with gas heating in winter, he said. "Reverse cycle" refrigeration, perhaps to augment radiant heating in winter, might be another way to even up the load, according to Mr. Shepard.

Mr. Millham, who administers the WPB "Freon" order M-28, declared that no "Freon" for comfort cooling applications can be expected before 1945 even though more "Freon" is being planned today.



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**FREEZ-ALL food cabinets and Pelco coolers mfr'd by Refrigeration Division, PORTABLE ELEVATOR MFG. CO., Bloomington, Illinois.**

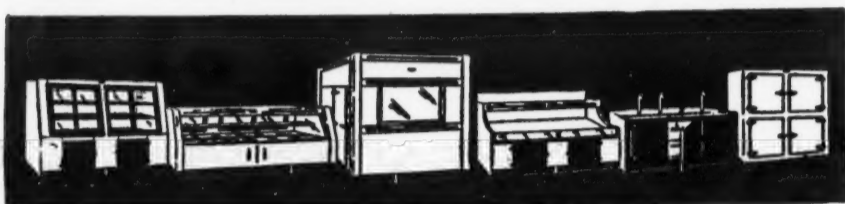
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## PATENTS

Weeks of April 18 & 25

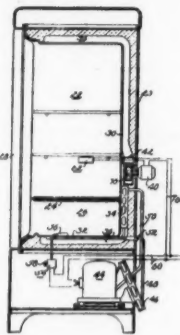
2,346,641. **REFRIGERATION APPARATUS.** John H. Ashbaugh, Longmeadow, Mass., assignor to Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., a corporation of Pennsylvania. Application June 4, 1941, Serial No. 396,515. 10 Claims. (Cl. 20-35).



4. In a refrigerator cabinet, the combination of a thin, normally flat panel of relatively stiff heat-insulating material so positioned in the refrigerator cabinet that it is subjected to moisture on only one side thereof, and a rigid member secured to said panel to distort the same into a dish configuration with the side subjected to moisture forming the concave side of the panel to prevent bulging of the panel in the opposite direction, said rigid member being out of contact with the major portion of said panel.

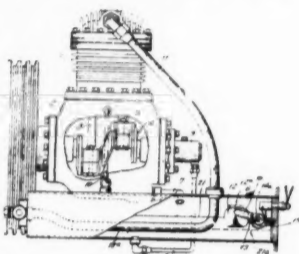
2,346,837. **REFRIGERATING APPARATUS.** Albert O. Grooms, Dayton, Ohio,

assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application Feb. 24, 1941, Serial No. 380,252. 7 Claims. (Cl. 62-4).



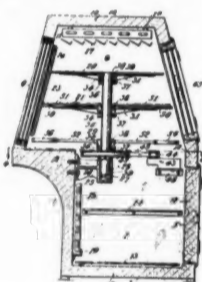
2. Refrigerating apparatus including an insulated cabinet containing a compartment to be cooled, a lining member surrounding the compartment, means forming a circulating passageway surrounding the compartment, a cooling unit in heat exchange relation with said circulating passageway, electrically operated means for circulating a fluid through said passageway into heat exchange relation with said cooling unit and the outside of said lining member, and temperature responsive vibrating contact means for gradually varying the operation of said electrically operated means.

2,346,886. **OIL FLOAT OPERATED SWITCH.** Walter W. Williams, Bloomington, Ill. Application June 27, 1941, Serial No. 400,077. 9 Claims. (Cl. 62-115).



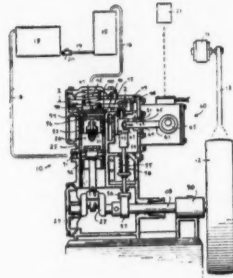
3. In a sealed refrigerating system including a compressor forming a part of said sealed system, a lubricant supply communicating with said compressor, a heater in said lubricant supply and dependent on the lubricant level for effective vaporizing of dissolved refrigerant in said lubricant, and means controlled by the lubricant level to cause intermittent operation of said compressor in response to variations in pressure in said system and to prevent operation when the relationship between said lubricant and said heater become ineffective for proper vaporization of said dissolved refrigerant.

2,346,914. **REFRIGERATED DISPLAY CABINET.** William J. Drucker, Richmond Hill, N. Y. Application June 16, 1941, Serial No. 398,191. 1 Claim. (Cl. 62-89.5).



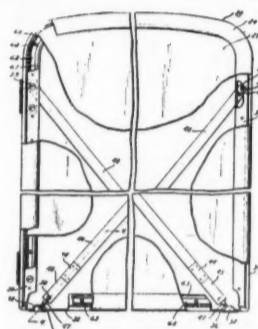
A refrigerated display cabinet comprising the combination of a refrigerated casing having a display and storage sections and a cooling coil unit stationary in at least one of the sections and at least one display assembly in said display section, said display assembly comprising a plurality of display turntables, a spindle rotatably secured to said casing with its axis of rotation vertical, an electric motor and driving means connecting the motor with the spindle to slowly turn the spindle in one direction, a circuit of said motor including a switch means operated by said door to automatically open when servicing the refrigerated cabinet, to then stop said motor and to automatically close when the servicing is complete, to cause said motor to then run, hubs mounted revolvably in predetermined axially spaced positions upon the spindle, clutch means to rotatably drivingly engage the spindle to the hub and effective upon the turning of the spindle in said direction, said clutch means being releasable to disengage the spindle from each hub by manually turning the hub in the same direction, a plurality of brackets radially attached to said hubs, and at least one display supporting means attached to each of said brackets, the arrangement providing extended air channels adjacent to portions of the path of the outer end of said display supporting means, to enhance the air circulation within the refrigerator cabinet.

2,346,987. **VARIABLE CAPACITY COMPRESSOR.** Alvin B. Newton, Minneapolis, Minn., assignor to Minneapolis-Honeywell Regulator Co., Minneapolis, Minn., a corporation of Delaware. Application Nov. 9, 1940, Serial No. 365,097. 10 Claims. (Cl. 230-21).



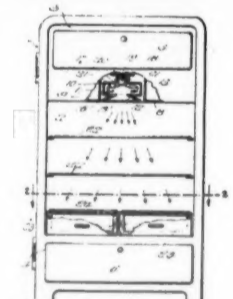
1. In a compressor including a reciprocating piston operating within a piston chamber to deliver a compressed fluid, the combination of, an outlet valve for emitting compressed fluid from the compressor chamber, driving means for reciprocating the piston, a driven cam operated by said driving means, a reciprocable cam follower biased into engagement with said cam, a first cam surface carried by said cam follower, a second cam surface in cooperative relationship to said first cam surface, a rockable link for operating said outlet valve, a connecting link between said rockable link and said second cam surface, said cam follower, said connecting link, and said rockable link being cooperatively arranged with said cam surfaces so that said driven cam may operate said outlet valve, and means for varying the relative position of said cam surfaces to thereby vary the action of said outlet valve.

2,347,090. **REFRIGERATING APPARATUS.** Earl D. Drake, Grand Rapids, Mich., assignor to Nash-Kelvinator Corp., Detroit, Mich., a corporation of Maryland. Application Sept. 15, 1942, Serial No. 458,827. 2 Claims. (Cl. 20-35).



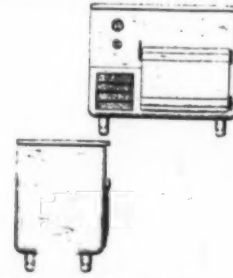
1. A door of the class described comprising inner and outer panels with heat insulation therebetween, said outer panel formed of relatively thin sheet material of pan-like conformation including top, side and bottom walls bent inwardly to form a peripheral ledge about the door, a frame secured to said ledge and extending about said door to stiffen the outer panel, straps extending diagonally across said door within said insulation, one end of each strap fixedly secured to said frame and their opposite ends having individual adjustable means for securing to a wall of said outer panel, each of said adjustable means independently operable to tighten a respective strap sufficiently to stiffen said outer panel into a fixed rigid position.

2,347,307. **IRRADIATING REFRIGERATOR AND THE LIKE.** Stewart C. Whitman, deceased, late of New York, N. Y., by Helen Whitman, administratrix, New York, N. Y. Original application April 4, 1941, Serial No. 386,936. Divided and this application Nov. 12, 1941, Serial No. 418,800. 4 Claims. (Cl. 250-51).



1. In an irradiated refrigerator, a refrigerator casing having a refrigerating chamber and a compartment separated by a wall from said chamber, said wall having a slot therein a chamber within and closed against the compartment and having an open side facing the slot in said wall, and an ultraviolet tube disposed within the chamber of the compartment and comprising an envelope having a discharge portion and a flaring transmission portion communicating at its contracted side with the tube and provided at its enlarged side with a lens facing the open side of the chamber and slot in the plane of said wall, and electrodes in said discharge chamber for producing ultraviolet rays.

137,735. **DESIGN FOR A LOW TEMPERATURE CABINET.** William S. Connell, Norwood Park Township, Cook County, Ill. Application Sept. 3, 1943, Serial No. 111,055. Term of patent 7 years. (Cl. D67-3).



The ornamental design for a low temperature cabinet, as shown.

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**TYLER REFRIGERATORS**

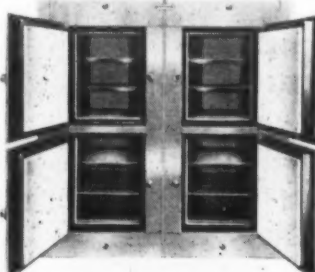
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SECTIONAL PORTABLE LOCKER PLANTS  
SECTIONAL WALK-IN ROOMS FOR FROZEN FOOD STORAGE, Etc.  
SECTIONAL REACH-IN CABINETS FOR FROZEN FOOD STORAGE AND DISPENSING  
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## Many Technical Papers & Annual Golf Tournament To Feature ASRE Meeting

(Continued from Page 1, Column 4)

night, Monte Carlo party Monday evening, annual luncheon on Tuesday to be addressed by George Gibbons, senior vice president of the Aluminum Co. of America, and the cocktail party and dinner-dance Tuesday night, as well as special entertainment for women guests on each day.

General meeting arrangements and entertainment were planned by the Pittsburgh section of the society under the direction of Edward Scanlon, chairman, and Austin Jones, and Dr. R. B. Mears.

First session of the meeting is scheduled for 9:30 a.m. Monday, June 5, but the Sections, Finance, and Executive committees will meet at noon Sunday, June 4. The A.S.R.E. Council has planned a dinner-meeting also for Sunday, at 6:30 p.m.

Complete program for the Pittsburgh meeting follows:

### SUNDAY, JUNE 4

12:30 p.m.—Finance committee meeting.  
1 p.m.—Sections committee luncheon and meeting.  
1 p.m.—Executive committee luncheon and meeting.  
2 p.m.—Advance registration.  
6:30 p.m.—A.S.R.E. Council dinner and meeting.  
8 p.m.—Get-together party.

### MONDAY, JUNE 5

9:30 a.m.—First Session—A. B. Stickney, president of A.S.R.E., presiding.

"Refrigerants and Absorbents"—Dr. William R. Hainsworth, vice president, Servel, Inc., New York City, and past president of A.S.R.E.

"Hydrocarbon Refrigerants in Low Temperature Fields"—H. D. Edwards, Linde Air Products Co., New York City, past president of A.S.R.E.

"Blast Freezing Plants"—Earl D. Pollock, export manager, Vilter Mfg. Co., Milwaukee.

2 p.m.—Second Session—J. F. Stone, vice president of A.S.R.E., presiding.

"Heat Flow Rates with Rapid Temperature Changes in Enclosed Space"—H. B. Pownall and S. P. Soling, senior application engineers, York Corp., York, Pa.

"Control of a Temperature Altitude Chamber"—F. W. McKenna, Vilter Mfg. Co.

"Chromate Corrosion Inhibitors in Brine Systems"—Marc Darrin, Mutual Chemical Co. of America, Baltimore, Md.

"The Use of Cold Cathode Fluorescent Lighting in Refrigerated Areas"—R. C. Hultgren, production engineer, General Luminescent Corp., Chicago.

4 p.m.—Technical committees meeting.

4 p.m.—Awards committee meeting.

4 p.m.—Education and Research committee meeting.

4 p.m.—Membership committee meeting.

4 p.m.—Program committee meeting.

6:30 p.m.—Publications committee dinner and meeting.

9 p.m.—Monte Carlo party.

### TUESDAY, JUNE 6

9:30 a.m.—Third Session—John G. Bergdoll, Jr., treasurer of A.S.R.E., presiding.

"The Postwar Domestic Refrigerator"—Dr. Arthur W. Ewell, Worcester Polytechnic Institute, Worcester, Mass.

"Industrial Plastics Materials: Characteristics and Factors Affecting Cost"—John Sasso, managing editor, "Product Engineering," New York City.

"Refrigeration in the Synthetic Ammonia Industry"—J. G. Dely, consulting engineer, New York City.

12:30 p.m.—31st Spring Meeting luncheon.

Invocation—Dr. Hugh Thompson Kerr.

Speaker—George Gibbons, senior vice president of Aluminum Co. of America.

2 p.m.—A.S.R.E. annual golf tournament—South Hills Country Club.

2 p.m.—Meeting of joint committee on industrial refrigerating equipment.

2 p.m.—Meeting of A.S.R.E. Committee on Relations with Other Organizations.

6:30 p.m.—Cocktail party.

7:30 p.m.—Dinner-dance.

### WEDNESDAY, JUNE 7

9:30 a.m.—Fourth Session—Charles S. Leopold, vice president of A.S.R.E., presiding.

"Psychrometry in the Frost Zone"—D. D. Wile, Carrier Corp., Syracuse, N. Y.

"A Method of Determining Thermal Conductivities at Low Temperatures"—Ludwig Adams, Mellon Institute, Pittsburgh.

"Refrigeration Test Equipment"—Robert W. Christie, U. S. Testing Co., Inc., Hoboken, N. J.

1:30 p.m.—A.S.R.E. Council luncheon and meeting.

## More Activity on Training Sought

(Continued from Page 1, Column 2)  
to enlist the service managers of manufacturing operations, members of the National Refrigeration Supply Jobbers Association, and local chapters of the Refrigeration Service Engineers Society in the drive to complete the roster of the Local Service Councils.

The Council of Electric Operating Companies, which proved so helpful in the initial effort to set up Local Service Councils (representatives of local power companies often serving as temporary coordinators), will again be active in this effort. Said Mr. Kromer in announcing new plans:

"Training schools in the refrigeration industry are needed primarily to train replacements. These schools were requested by the War Manpower Commission after General Hershey's wire of last July and after the industry was placed on the critical list.

"Selective Service distinctly advises that a deferment is given only to provide time to train a replacement. While we know that none of these trainees will be fully competent this summer as refrigeration repair men, it is necessary that trainees be procured and their training be started in the classroom and in the field if we expect further deferment of refrigeration repair men.

"Local Councils are necessary, as training schools may only be organized properly through the combined efforts of all factors in the refrigeration industry in each community. A Local Council is necessary that committees can be formed to cope with related manpower problems in Selective Service, prices and wages, procurement and training of men, and parts and priorities.

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HIGH EFFICIENCY

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REMOTE and CABINET MODELS  
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Forty years of experience in building special cooling equipment.  
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**WAR INDUSTRIES NEED REFRIGERATION**

The use of refrigeration in industry has been greatly accelerated by the war. In peacetime this expansion may logically be expected to continue. Write for literature.

**GENERAL REFRIGERATION DIVISION**

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AUTOMATIC REFRIGERATION

## CLASSIFIED ADVERTISING

RATES for "Positions Wanted," 5¢ per word; minimum charge, \$2.50. Three consecutive insertions, 12½¢ per word; minimum charge, \$6.25.

RATES for all other classifications, 10¢ per word, minimum charge, \$5.00 per insertion. Three consecutive insertions, 25¢ per word, minimum charge, \$12.50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count.

### POSITIONS AVAILABLE

EXPERIENCED refrigeration counterman wanted immediately for established Central States jobber. Good salary. Permanent job. Good advancement, future. Give all details in letter. Box 1553, Air Conditioning & Refrigeration News.

WANTED: Refrigeration service man to service ice cream cabinets, soda fountains, Frigidaire and Kelvinator compressors in New York City and vicinity. Good wages, position steady. Write at once giving experience and references. Box 1554, Air Conditioning & Refrigeration News.

BEST OPPORTUNITY in all America both during and after the war. San Diego, Calif. offers you everything worth living for. We need good service men. Will pay top wages, time and a half and double time for over 44 hours plus liberal commissions. WRIGHT REFRIGERATION SERVICE, 1387 India St., San Diego 1, Calif.

DEVELOPMENT ENGINEER. We offer an unusual opportunity to a man desirous of associating with an old established manufacturer. This need is due to an expansion program now in progress for immediate and postwar requirements in the heat transfer field. Box 1542, Air Conditioning & Refrigeration News.

WANTED refrigeration service man to service ice cream cabinets, soda fountains, and all types compressors. Write at once giving qualifications, references, and draft status. Post Office Box 3147, Orlando, Fla.

WELL ESTABLISHED half million dollar organization mid-west refrigerator parts jobber requires services of one who understands this business to assist department manager in purchasing, selling, correspondence and other detail work. Wonderful opportunity for someone now as well as for postwar. Reply will be held in confidence. Box 1555, Air Conditioning & Refrigeration News.

WANTED two experienced refrigeration service men. Commercial Frigidaire dealer. Permanent. Good wages. MILLER ENGINEERING CO., 118 North Winnebago St., Rockford, Ill.

WANTED: Chief Engineer. Gentle, by Eastern manufacturer serving the government, private industry, and jobber-distributor trade. Must thoroughly understand all problems of commercial refrigeration air conditioning and ventilation. Splendid opportunity both now and postwar for right man. Our organization knows of this ad. Box 1541, Air Conditioning & Refrigeration News.

SUBSTANTIAL well known Midwest manufacturer of commercial refrigeration and air conditioning equipment desires competent refrigeration and sales engineer. This is unusual opportunity for a qualified man to secure permanent position in expanding organization offering excellent postwar opportunities. Box 1557, Air Conditioning & Refrigeration News.

### POSITIONS WANTED

SALES ENGINEER. 15 years' experience in refrigeration, air conditioning, ventilation field. Desires direct factory representation New York, New Jersey area. Practical engineer and sales application minded. Excellent dealer and architect contacts. Top-notch sales record. Interested in complete line, or will consider manufacturers with non-conflicting lines. Box 1549, Air Conditioning & Refrigeration News.

PRACTICAL REFRIGERATING Engineer, eleven years experience in commercial refrigeration and air conditioning application. Has experience erecting, servicing and selling. Desires position as salesman with refrigeration supply distributor, or with reputable concern as erecting engineer in metropolitan area of Colorado. Draft exempt. Best of references. Box 1556, Air Conditioning & Refrigeration News.

SERVICE MAN. Eight years experience household and commercial. Wants either service and installation or operator. Must be in warm dry climate. Would consider traveling over large territory. A. CLAUSEN, 1408 4th Ave., Oakland 6, Calif.

### EQUIPMENT WANTED

WILL PAY top prices for new or used large condensing units from 5 to 10-hp. capacity; also blower coils, freezer ovens, etc. REFRIGERATION CORP. OF AMERICA, 241 West 64th St., New York 23, N. Y.

USED EQUIPMENT WANTED: Air conditioning and refrigeration systems and machinery including self-contained units, coils, high-sides, shell and tube coolers and controls. Highest cash for large sizes. We urgently need two 15 HP motors and two compressors without condensers. E. M. FAIRBANKS CO., 475 Fifth Ave., New York 17, N. Y.

### EQUIPMENT FOR SALE

FOR SALE 200 Frigidaire Model "O" ½-hp. \$65. 300 Frigidaire Model "K" ½-hp. \$35. 200 Kelvinator Model 5563 ½-hp. \$42.50. 2, 4, 6 hole converted ice cream cabinet. All units are in running condition, air cooled with 60 cycle 110-220 volt motors. All orders F.O.B. New York. 25% deposit with order. Send for surplus stock catalog. EDISON COOLING CORP., 310 E. 149th St., New York, N. Y.

DRY BOTTLE COOLERS. ELECTRIC. Equipped with vending machine, blower coil, and self-contained ¼ H.P. Universal Cooler Corporation unit ready to plug in. Brand new. Streamlined. No priority required. Price \$132.50 net. GENERAL REFRIGERATOR COMPANY, 5400 Edom St., Philadelphia, Pa.

AIR CONDITIONING Blowers and coils. Four 30 ton units complete with 3 HP motors and blower housings. Practically new. Available at once. No priority required. Reasonable. EVERLAST, 444 Fourth Ave., New York City.

### BUSINESS OPPORTUNITIES

LARGE ELECTRICAL appliance, housewares, and contracting business. Own and occupy central modern corner building with attached warehouse and parking space. Tenants rent income from building make our quarters rent free. Established over 30 years. Excellent postwar possibilities. Fast growing suburban community. Terms may be arranged. Box 1548, Air Conditioning & Refrigeration News.

**Refrigeration**  
Parts and Supplies

DEPENDABOOK  
1944 Catalog No. 139

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## NEW 1944 CATALOG Just Off The Press

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## GUARD DUTY

The Ranco Overload Protection Unit is constantly on GUARD, accurately protecting the Rancostat. The heater coil is embedded and completely enclosed in ceramic material. The coil maintains the correct location inside the solder well and transmits its heat uniformly. After mounting, no "positioning" is ever required by the service man. Precision machining of the overload latch prevents any binding.

This is another reason why Ranco Controls are chosen by particular service men.

Ranco Inc.

COLUMBUS, OHIO

Ask Your  
Jobber

## L-38 Revision Specifies How and Where Applications For Systems Shall Be Made

(Concluded from Page 1, Column 5)  
order authorized on this form continues to be an approved order.)

All applications on Form WPB-1319 and all applications for a frozen food locker plant or an addition to an existing locker plant, are to be filed in duplicate with the Field Office of WPB for the district in which the equipment is to be installed.

Applications on Form WPB-617 are to be filed in accordance with Order L-41.

All other applications are to be filed in Washington.

Instructions on how to make applications on WPB Form 1319 (formerly PD-556) will be found in WPB Form 1319 instruction booklet (obtainable at any WPB office).

Following is the section of Order L-38 which covers methods of getting approved orders. The new parts of this section (as added or changed in the May 10 amendment) are in boldface type:

(d) **Approved orders.** The following types of purchase orders for delivery of any new system or parts, or industrial type extended surface heating equipment or industrial type humidifying equipment, when rated AA-5 or higher are "approved orders":

(1) Orders for direct use by the Army Navy, Maritime Commission, or War Shipping Administration.

(2) Orders by a person and for a direct use, if any, as shown on List B. These orders, when not otherwise rated, are hereby assigned a preference rating of AA-5 within the limited uses specified in List B. The rating may be applied and extended in accordance with Priorities Regulation No. 3.

(3) Orders placed in accordance with any CMP Regulation (including CMP Regulation 1), any preference rating order of the War Production Board (including P-126), or Priorities Regulation 9.

(4) Other orders specifically rated and authorized as follows by the War Production Board on application of the proposed purchaser. The appropriate application form is indicated below:

**Resale: Forms WPB-541 (PD-1A) or WPB-547 (PD-1X).** These forms may be used by dealers or others who are not producers and who are purchasing for inventory or resale. The correct form depends on the nature of the purchase and of the buyer's business.

**Export: Form WPB-541 (PD-1A).** This form may be used where the applicant desires to export or acquire for export. Delivery of items by the exporter is subject to the restrictions of List C (see paragraph (c) (3)).

**Large installation by ultimate consumer: Form WPB-617.** This form is to be used if installation of a system is involved and the cost of the construction (exclusive of the cost of the prime mover, compressor (condensing unit), condenser, receiver, evaporative surface (lowside), controls, indirect cooling units, and cooling tower) is more than \$5,000. The applicant should apply for the whole project, including the system, on this form.

**All other applications by ultimate consumer: Forms WPB-1319 or 2449.** These forms are to be used in all cases other than those above specified. Form WPB 2449 is to be used when the system or parts are required for use in any cold storage warehouse, industrial or commercial ice plant, frozen food locker plant, food processing plant (except equipment having a capacity of 5 H.P. or 5 tons (A.S.E.E. specifications) or less), industrial processing of products other than food, refrigeration equipment for stratospheric chambers, refrigerated railroad car, truck or ship, or any air conditioning installation of any size except evaporative coolers ("desert" coolers) of all sizes. For all other uses, Form WPB-1319 is the correct form and is to be filed in accordance with the WPB-1319 instructions manual. (Applications on Form WPB-2449 will continue to be accepted by the War Production Board until May 25, 1944 only, although any order authorized on this form continues to be an approved order.) If authorization is granted on either of these applications, it will be accompanied by any necessary permission to "begin construction" under Conservation Order L-41, and no separate application for that purpose need be made under that order.

**Frozen food locker plants.** An applicant for a frozen food locker plant, or for an addition to an existing plant, should first go to his local County Agricultural Conservation (AAA) Committee for instructions as to how to meet requirements prescribed by the War Food Administration concerning the persons who will rent the lockers in the plant. He must comply with these before his application may be filed with the War Production Board. When he has satisfied the AAA Committee that such requirements have been met, it will fur-

nish him a certificate showing that fact, and he must file this certificate with his application, which cannot be considered unless this is done. Applications will be considered in sequence in which filed, in accordance with the rules of the War Food Administration, and whose other rules will also be applied, as well as those of the War Production Board.

Where applications are to be filed. All applications on Form WPB-1319 and all applications for a frozen food locker plant or an addition to an existing locker plant, are to be filed in duplicate with the Field Office of the War Production Board for the District in which the equipment is to be installed. Applications on Form WPB-617 are to be filed in accordance with Order L-41. All other applications are to be filed in Washington.

## Westinghouse Names Four Vice Presidents

(Concluded from Page 1, Column 5)

and sales manager, reporting to B. W. Clark, who is vice president in charge of all sales activities of the company. The other new vice presidents will continue with their former duties.

Mr. Ashbaugh started with Westinghouse as a student engineer and after working on a number of engineering products was transferred to the company's electrical appliance division in 1931 as assistant manager of engineering at the Springfield, Mass. works. In less than a year he was named manager of engineering at that plant.

## Lack of Icemen Adds To Fears of Food Spoilage

(Concluded from Page 1, Column 3)

allowed to stand without proper refrigeration will cause food poisoning.

The crisis in ice deliveries, caused by the shortage of delivery men, brought a joint protest from ice dealers, the mayor, the health department, union heads, and the president of the local Chamber of Commerce.

Higher wages in other industries are luring icemen from their delivery jobs, it is said, and the draft has taken some of the younger men, too. Although the drivers have threatened to strike, both union officials and ice dealers say there is no controversy between them.

## Some Plumbing Fixtures Okayed; Copper Tight

WASHINGTON, D. C. — Increased amounts of copper base alloy and zinc may be used in the production of several plumbing fixtures, announces the War Production Board in a revision of Schedule V of Limitation Order L-42.

Because the supply of copper is short at the present time, no additional extensions in the use of copper for plumbing fixtures is planned now, WPB said. Copper production in 1944 is expected to fall short of the 1943 total, according to WPB, since there may be fewer deferments granted by draft boards to men in the copper field.



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When it's "uber" with Schicklgruber and ditto with Hirohito . . . then for the burst of business! We're a great nation. Our inventive and productive output has astonished the world. Standards of living will continue to advance. New standards of health and comfort are on the way. New and greater prosperity for all. And which lines will be up there among the leaders? You've guessed it! Refrigeration and air conditioning.

Millions . . . yes, millions . . . of new homes will be built in the years following the War. If only 200,000 of these homes are air conditioned each year that means an annual volume of \$200,000,000. And this is only ONE of the vast markets opening before our eyes. It's tremendous. It's colossal. Not since the winning of the WEST have we had such a future. Opportunity knocking? It's kicking in the door!

Now . . . today . . . is the time to lay your plans. Now is the time to get in the ground work. Tomorrow you'll be too busy.

Make new contacts. Tomorrow's business will come from new sources. Familiarize yourself with new applications . . . new markets. Tomorrow's business will be bigger and better . . . but it will be DIFFERENT. Prepare for tomorrow's prosperity TODAY!

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to Know  
In Time'**

# Air Conditioning & REFRIGERATION



# NEWS

**BULLETIN  
EDITION  
May 29, 1944**

Member: A.B.P., Inc.; A.B.C.

Issued Every Monday at Detroit, Mich.

Vol. 42, No. 5, Serial No. 793

MAY 29 1944

## REPAIRMEN MUST TAKE STEPS ON DRAFT STATUS

WASHINGTON, D. C.—Although the new rules issued by Selective Service seem to make a clear-cut case for the deferment of refrigeration repairmen over 26 years of age (see story in May 22 issue of the NEWS), a warning has been issued that the new rules do not automatically place in a deferred status those men who meet the qualifications set up in the new rules.

Refrigeration repairmen in the age group of 26 through 29 must be able to show that they are a "necessary man" in their trade. They must be sure that a Form 42-A has been filed requesting deferment in Class 2-A.

Men in such ages who have been previously classified into 1-A, and who wish deferment, should make immediate moves to have their cases re-opened, which the local draft board can be requested to do under the new rules. If such men do not get out of Class 1-A, they are likely to be called even before the supply of men under age 26 is exhausted.

Refrigeration repairmen aged 30 through 37 will not have to prove that they are "necessary" to the job, but merely to show that they are engaged in such work. However, they will need to be sure that Form 42-B has been filed for them, and to determine whether they are presently classified 1-A or 2-A.

It is very possible that a man over 30 who has a 1-A classification and doesn't take any steps to have it changed might well be taken into the army within the next few months.

## TILLEY NAMED TO MANAGE G-E DISTRIBUTING BRANCHES

BRIDGEPORT, Conn.—Paul A. Tilley has been appointed manager of the appliance distributing branches of the General Electric Co., it has been announced by Hardage L. Andrews, vice president in charge of the Appliance and Merchandise department.

Tilley is responsible for all operations of these branches, which are located in Boston, Newark, New York, Philadelphia, Tampa, Cincinnati, St. Louis, and Los Angeles. Headquarters will be in Bridgeport.

The new manager will continue for the present in his position as manager of sales in the Ship Fittings division of the company, which position he has held since September, 1942.

He has been with the company for seventeen years. He came to Bridgeport in 1938, when he assumed his duties as manager of distribution services.

## Commercial Group To Meet on Prices

WASHINGTON, D. C.—An organization meeting of the newly appointed members of the industry advisory committee representing manufacturers of commercial refrigeration condensing units will be held with officials of the Office of Price Administration in Washington on Tuesday, June 13, 1944, the price control agency announced May 22.

After the election of officers by the industry committee, a discussion of pricing problems of the industry will be held with OPA representatives.

Members appointed to the committee are:

Charles Knox, Baker Ice Machine Corp.; B. J. Scholl, Brunner Mfg. Co.; V. S. Day, Carrier Corp.; Frank J. Gleason, Copeland Refrigeration Corp.; John P. Rainbault, General Electric Co.; Harry Newcomb, Servel, Inc.; F. K. Smith, Refrigeration Division, Tecumseh Products Co.; T. S. Pendergast, Universal Cooler Corp.; Marshall G. Munce, York Corp.

## May Remove Gas, Oil Stoves From Rationing

WASHINGTON, D. C.—WPB is seriously considering a proposal to remove stoves from rationing, and a decision is possible before the end of the month.

Donald M. Nelson, WPB chairman, ordered that a study be made at the request of Rep. Calvin Johnson of Illinois, who is urging that coal, wood, and gas cooking and heating stoves be taken off rationing and manufacturers be allowed to increase production. Electric ranges are not rationed but are sold only to those who can get a priority rating.

## Worthington Pump Co. Buys Motor Firm

HARRISON, N. J.—Worthington Pump & Machinery Corp. has purchased the Electric Machinery Mfg. Co. of Minneapolis, makers of motors and electric generators.

## Household Units Now for Gov't Quotas Only

WASHINGTON, D. C.—The stockpile of new household mechanical refrigerators has been reduced to about 15% of its original size early in 1942, when production was stopped, and only highly essential military and public health needs can be met, WPB said last week.

Applications from individuals, either civilians or military personnel, cannot be given favorable consideration now, WPB has declared.

All household mechanical refrigerators in the hands of manufacturers and distributors have been "frozen" since the beginning of 1942. Releases from the frozen stockpile have been made only upon authorization by WPB.

In accordance with predetermined programs, subject to periodic revision in relation to the existing supply of mechanical refrigerators, WPB has authorized releases to each of the claimant agencies—the War and Navy Departments, Maritime Commission, War Shipping Administration, Office of Civilian Requirements, the National Housing Agency, and others.

During the last two years, 250,000 mechanical refrigerators, principally of the de luxe type, representing a surplus over the claimants' estimated requirements, have been released to retail stores for sale to consumers able to certify that no other refrigeration equipment is available to them. The last release to dealers was made in April, 1943. The frozen stockpile has now become so small that further releases of this kind cannot be expected, WPB said.

To conserve the limited quantity of refrigerators remaining in the stockpile, it has become necessary to adopt more rigid criteria in making releases to the claimant agencies. In general, mechanical refrigerators are being released only to serve purposes of the highest essentiality for the largest possible number of per-

(Concluded on Page 2, Column 3)